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The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

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MONEY IN THE APIARY. SPRING MANAGEMENT AND STARTING OUT APIARIES.

BY E. D. TOWNSEND.

I have one apiary that I saw only three times last summer, yet I secured nearly all of the honey that the location supplied. While I would prefer to visit a yard once a week, either for extracted or comb honey production, the articles I shall write will be intended for those who have several apiaries, and wish to learn practical, profitable methods that will enable them to manage their bees with only a few visits each year. We will begin with

SPRING MANAGEMENT.

My advice will be somewhat of a negative nature—what *not* to do. With me, spring management is all done in the fall. My extracting colonies are either in chaff hives, or else packed in chaff packing cases. I see that each colony has 25 or 30 pounds of good honey. When spring comes they are in the best possible condition for breeding up, and there is simply nothing more to do until in June, when they are unpacked and upper stories put on.

TREATMENT OF WEAK COLONIES.

Weak colonies are treated exactly the same as strong ones. Years ago, when I had a single apiary, I thought it necessary to unite the weak colonies, or put each on one or two combs, with a division board upon one side, but experience has proved that it is all useless work—they come through exactly as well when left to themselves. The reason is hard to explain, but it is true, nevertheless. My spring management does away entirely with all stimulative feeding, spreading of the brood, or any disturbance of the brood or bees during April and May. Just leave the quilts sealed down, with a covering of four inches of nice, warm chaff, and the bees will do the rest. I imagine some one saying that with his system of spreading the brood he can increase his yield from 10 to 15 per cent. This shows that his location is not properly stocked. Add

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a few more colonies, and the results will be the same.

METHODS MUST BE ADAPTED TO HIRED HELP.

Any system of working out-apiaries must be so simple that hired help, with a moderate amount of experience, can readily understand and put in practice all of the necessary manipulations for the production of a crop of honey.

MOVING BEES TO AN OUT-YARD.

May is the month in which we try to get all our moving done. At this season of the year nearly all of the old bees have dropped off and the young bees are not so numerous as they will be later. The honey is also getting low, thus leaving the colonies the lightest of any time of the year. Select a cool time (we usually get more than we need at this season of the year), and nail screens over the strong colonies; the moderate and weak ones will go all right with the covers on. Of course, you will nail a strip of wood over the entrance. I prefer a flat rack to move bees on; something like a hay-rack. Mine is seven feet wide and seventeen feet long, with a seat in front built in such a manner that it does not take up any room from the rack. I use bolster springs that will hold up 4,000 pounds, and put springs and rack on a low-wheeled wagon so the wheels can turn under the rack. With this rig 50 colonies can be moved at one load without decking up; or 40 of the chaff-packed hives can be taken at a load. A few years ago I thought I had to do my moving in the night, but, of late, I have found that it could be done as well, or better, in the daytime.

HAVE A CAUTION—HAVE A CARE!

We will now suppose you are loaded and ready to start. See that you have a hammer and some nails of different sizes, as well as some rags and cotton batting to stop any leaks that may occur. Of course, you will have your smoker in good order, ready to use with the first signs of bees getting out. After you have driven a fourth of a mile, if a few get out they usually do no harm; they just make a few circles to mark their location and are left behind. Still, I would rather none of them would not get out.

IN CASE OF ACCIDENT,

Instruct your teamster to take the team off as quickly as possible, while you use the smoke on the bees.

Arriving at your destination, do not leave the bees standing in the sun, but make it your first business, after unhitching the team, to unload. After the bees are set on their stands (previously prepared) the next thing to do is to open the entrances and put on the covers. The screens can be removed at your leisure.

SELECTING THE LOCATION.

My bees are all on rented ground. I select the location, and then try to find some well-sheltered spot; and, as there is to be no watching for swarms, I prefer to have the bees quite a distance from any house, where there is not likely to be much team-work near.

PAINTING HIVES IN THE SPRING.

I do all my own painting of hives during the spring months. Do not think of painting during cold weather; it will not be satisfactory. Select a good brand of pure prepared white paint for outside use. If you have not had quite a lot of experience, you will do much better with the ready-mixed paints than to try to mix it yourself.

We are now near the honey season; and in my next I will explain my method of putting on upper stories, extracting, and handling the crop of honey.

REMUS, MICH., Dec. 7, 1903.

MOISTURE AND VENTILATION IN BEE HIVES AND CELLARS. BY C. F. SMITH.

Friend Hutchinson—I am induced, by two reasons, to comply with your request to write on the above subject.

1st. From the standpoint of my experience during the past four years, I can see that the bee-keeping public in general has a wrong impression. 2nd. That, in my opinion, very little advance in wintering problems has been made in the past twenty years. As there were ten or twelve years that I did not read the bee papers, it is possible that others have touched upon the points I shall make; but, judging from the "handwriting on the wall," they did not; or, if they did, they failed to make the desired impression.

UPWARD VENTILATION, ABSORBENTS AND SEALED COVERS.

Twenty years ago the bee-keeping public in general admitted that bees in winter required one of two things—either an absorbent, or else direct, upward ventilation. There were great controversies pro and con, but the preference of bee-keepers generally, favored absorbents. About this time some new and improved hives were invented and placed on the market which did not readily admit of absorbents; then it became necessary to invent a new theory on ventilation to go with the new hives. Then it was, that the hermetically sealed hive idea was sprung upon the public. This fallacious idea came near sealing the doom of many an apiarist; among them one of the progenitors of the idea, who lost 335 colonies out of 400. Then he wrote a book and called it SUCCESS IN BEE CULTURE, in fullfilment of a promise to "write a book upon bee-culture when the wintering problem had been solved." It also came near sealing my doom, for I accepted the new idea along with the "New Hive," (which, by the way, is the best hive yet invented.)

BEES DON'T STOP HOLES AND CRACKS IN THEIR HIVES, THROUGH WHICH THEY CAN PASS.

These men discovered that the bees painted the interior of their homes, and stopped up all the little cracks, and so they jumped at the conclusion that bees wanted neither absorbents nor upward ventilation. But do they? Did any one ever know bees to stop up a hole or crack in the top of their hive, through which they could readily pass? Many of my hives, through faulty workmanship, have ¼ inch holes, and some ½ inch cracks, in their upper corners, yet, in ten years time, the bees have made no effort to stop them up. I admit that they stop up their honey-boards, but only where it is a tight squeeze to get through.

IN THE CONSUMPTION OF HONEY, WHAT BECOMES OF THE MOISTURE?

If bees in a cellar consume from 4 pounds (Doolittle) to 20 pounds (Bingham) in proportion to the distress they are in), what becomes of all the watery portion? If the great lights were to winter their bees in a country where they have winter all the year round, except four or five months, when the sleighing is not very good and the flowers are in bloom, they would soon have to find out what became of it, or go out of the business.

Do bees, combs, and the hive-interior, get wet, stinking, rotten and diseased from the "cold damp cellar" or from their own mositure? Do the sock and foot in the rubber-boot get wet from the water of the melting snow

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or from the moisture of the foot? When would it suffer most from the moisture, on a cold day or a warm one? Is there as much moisture in a cool cellar, with water under foot, as there is in a hot kitchen with water on the stove? Hadn't we better read up a little on physics? Is there much difference practically? Is not a moist atmosphere all right any way? Don't physiologists advocate it, and advise us to keep a pan of water on the stove of our living room? Which is the more healthful, sleeping in the dry atmosphere of a stove-heated room, or in a clean earth cellar? In such a dry room, or in a bed room where no fire has been, and where the window is open and the cool, damp, foggy air is pouring in? Couldn't a man sleep out in a big rain in health and comfort with only a big umbrella that would shed all the rain? In a Rip Van Winkle, six months' sleep, where would a man keep the drier, in a warm dry cellar under a rubber sheet, or in a cool damp cellar in a gunny sack? Where are we at? Am I theorizing too much? Would you rather have experience? I want to impress upon you the fact that the little difference in the amount of moisture between "dry" and "damp" cellars cuts no figure at all.

IT IS THE MOISTURE FROM THE BEES THAT CAUSES THE TROUBLE.

All writers at hand put great stress on dry cellars. Mr. Bingham not only cements the walls and floors to keep out the dreaded moisture, but strongly urges that we build our walls as early in spring as possible so the moisture will be all out of the walls too. Now, Mr. Bingham, as you had all kinds of fun with Mr. Barber, in the April Review, over the fresh air breezes in the cellar, let us have some sport at my expense, if you choose, or at yours, if you don't. You place a tub of water in your house-cellar. Over this tub set a stand of bees (weak or strong, honey or no honey). Leave the bottom-board out-doors so the moisture from the tub may have ingress, and leave the top-board off that it and the moisture from the bees may have easy exit. Throw any old thread-bare gunnysack over the frames to keep the bees out of your whiskers. If they have no sealed honey, give them a spoonful or two once a week of honey or syrup, thick or thin. Never mind the bee-bread, if they are weak they will want it. If they die, or are diseased, or combs are mouldy, yes, if the bees are not in in perfect health, and combs as clean in the spring as they were in the fall, or if they consume more than a pound of feed per month, draw on me for all expenses and damages and I will promptly honor the draft. Of course, if there is water in your cellar most of the winter, as there is in mine, you can dispense with the tub. You can put them in any time; say, October 25, and put them out when willows bloom, if the weather is nice, if not, leave them till fruit-bloom. Keep the cellar clean and well aired and there will be no roaring, because the bees are perfectly contented and happy. Take a bright light and see them often; it breaks the monotony, but not their rest. If you have to feed them weekly, they will soon look for you and appreciate your coming. Keep the temperature at from 40 to 60 degrees.

Why will they winter so well, and eat so little and be so contented and happy? Because they have perfect and absolute control of the heat and moisture situation. Of the heat by clustering loosely or compactly together. Of the moisture—well, they won't know there is any, and without an instrument man could not. In any event, it will not be trickling down on their backs the whole live-long winter—an endless torment.

GIVE THE MOISTURE A CHANCE TO PASS OFF.

In his chapter on wintering, see how close Heddon came to it when he shov-



Out-Apiary of Chaff Hives Belonging to E. D. Townsend, Remus, Mich.

ed those nails under a few covers!—said when he raised the cover up the water ran off. Why didn't the moisture pass out? Because the current was too slow; it condensed on the top-board as soon as it came in contact. An illustration of the same thing I showed you, Mr. Editor, in my yard Nov. 5, when I raised a tight, flat cover (painted on both sides) that was up about ⅛ of an inch at one end. Remember how the water ran off, and the weather was dry? A week before that, the cover was down tight, and when I raised it, the water ran off in a stream and I wrung a pint of water from the burlap on the frames. Under tight covers, this distressing condition goes on continually through the fall, winter and spring.

THE HIVE COVER OF THE FUTURE.

I have eight kinds of covers. The tightest and closest one, the one that keeps the bees the wettest and most miserable, is the flat, reversible. The coming hive-cover will have no paint, will shed all rain and sun, yet will not warp, will need no shade and will not rot. It can be ventilated at will, go half way in preventing swarming, will last 25 years, and cost ten cents K. D. or fifteen cents K. U. But we haven't space for hives and covers; besides I am digressing. As indicated at the outset, I am practicing this method of wintering for the fourth year. Bees are in a wet cellar and I haven't lost a colony or had a mouldy comb. I am well aware of the opposition to top ventilation. In their last edition the Roots advocate a dry cellar "no top ventilation" and "covers should be sealed down with propolis to make the top air tight." Sixty-two colonies are now in my cellar without a single top, and some of them without bottoms. Ten chaff hives are included in this lot, their covers being unhinged and left out-doors, while twelve chaff hives are left out in the usual way. They winter cleaner and better in the cellar.

To an accident, is due my practice in wintering. A cover was moved half off one of the hives four years ago, when they were put in the cellar. The condition of that one, in the spring, was perfect, while all the rest were wet, mouldy, diseased and half dead. Then I took a tumble. During the summer a minister came my way, and while "he supped with me and I with him" he told me that a man near Grand Rapids wintered his bees in the cellar with no covers except one or two thicknesses of burlap, and then I was born again.

CHEBOYGAN, Mich., Nov. 18., 1903.

MANAGING ELEVEN APIARIES WITH ONLY ONE HELPER. BY E. F. ATWATER.

This locality, owing to its poor and uncertain flows, is not very well adapted to the extensive production of comb honey, and for this and other reasons, I produce mostly extracted honey; running only three or four yards, all, or in part, for comb-honey.

As there is no bee pasturage in or near Boise, my yards are all out-yards, located from 6½ to 18 miles from home.

The bees are wintered either upon their summer stands, where a windbreak is available, or in light open sheds, facing south, with two tiers of hives in each shed. The sheds keep the hives dry and protect them from the prevailing winds.

No packing of any kind is necessary or desirable here, as, owing to the mild climate, bees winter very well in boxes made even of thin lumber, and perhaps full of large cracks.

All colonies must have an abundance of stores and a large force of bees, for the frequent flights during the winter, with large consumption of stores, will usually result in the loss of all weak colonies, such as may be wintered successfully in the cellar farther east.

LARGE BROOD-NESTS NEEDED IN SPRING.

The bees are mostly in ten-frame and eight-frame L. hives, and, of the two, there is no doubt that the ten-frame is the better, for the production of extracted honey in this locality. However, I secure the same results with the small hives, but at somewhat greater labor and expense. Even the ten-frame hive is too small for a spring brood-nest; and I am not sure that the ten-frame Draper Barn is large enough. We usually have some honey coming in during the spring breeding period, and, when the colonies have been bred up so as to need more room, I add a shallow case of worker combs, putting it *on top*.

As both the eight-frame and ten-frame hives are liable to be short of stores, I am wintering more and more of them in one and one-half story hives which saves considerable work in the spring. I have been asked why I do not winter in two-story hives, and so avoid the use of the shallow frames. I *have* done so, but, as the bees start their spring brood-nest in the upper story, the lower story too often becomes a grand storehouse for pollen, and the bees do not seem to extend their brood downward, as readily as upward, into a shallow case receiving the heat from below.

When wintered in one and one-half story hives they readily extend their brood-nests down into the full depth combs below, owing to the shallowness of the upper case. I an not sure that the full depth combs are as rapidly or readily handled by the case as the shallow combs.

EXPERIENCE WITH MANY HIVES.

After a thorough trial, either in my own apiaries, or in yards which I have handled on shares, of the eight-, ten- and eleven-frame L. hives, the eight-frame Heddon, the ten-frame Draper Barn, a nine-frame hive about seven inches deep, and a hive containing fourteen frames slightly larger than the old American frame, I have found the following principles to apply in my practice for extracting.

HIVES MUST TIER UP.

No hive is worthy of consideration which will not tier up to advantage with either the eight-, or the ten-frame L. hive, and of the two, the ten-frame is the better.

HANGING FRAMES BEST FOR PRODUCING EXTRACTED HONEY

No hive is suited to the economical production of extracted honey which contains closed-end frames of the Quinby, Bingham, Heddon, or Danzy types, as none of them can well be used with the frames spaced wider in the supers than in the brood chambers. We cannot afford to use the same spacing in the supers, owing to the ridiculously thin combs after uncapping, the larger number of combs required to hold a given amount of honey, and the resultant increased cost of handling.

While an entire case of Heddon or Danzy combs can be inverted easily, and the case lifted off, returning the frames to the cases, after extracting, is slow work.

The proof of the folly of using closed-end frames for extracting supers, is found in the fact that no *extensive* producer of extracted honey is using them.

I have used many Hoffman frames but do not yet know if I like them. Loose, hanging frames suit me very well. I have just ordered 200 ten-frame, shallow, extracting supers with loose hanging frames; hanging on casing nails, as mentioned in the November Review. All my hanging frames

have staples driven in the end bars, near the lower ends, and projecting ¼ inch. This is a Coggshall kink of real value, for, as W. W. Somerford says, with these "you can ram frames in or out without killing bees between the ends of the hive and the frames."

HANGING FRAMES ON CASING NAILS IS SATISFACTORY.

I know that the principle of hanging frames on casing nails will be satisfactory, as I have handled such frames in the apiaries of Mr. Thos. Chantry, formerly of South Dakota. Mr. Geo. E. Dudley, of this State, also uses them, and credits the idea to the late B. Taylor, of Minnesota.

These supers will cost only a trifle more than the *freight alone* on similar goods from the East.

But, to return, about April 1st, all the bees are set on their summer stands, plain rims of 1x4 fencing, large enough to hold two colonies side by side.

About May 10th, another trip is made, shallow cases added to the colonies that need more room, and a little equalizing done.

Again about June 1st to 10th, according to the season, the yards are again visited and enough supers put on each colony to hold all the first crop, ordinarily. If any colony seems crowded below, some brood is raised up into one of the extracting supers.

Plain zinc excluders are used on all colonies from this time until the close of the season.

NO THOUGHT OF SWARMING.

As the colonies have an abundance of room at all times, there is no thought of swarming, save in the very few colonies which supersede their queens during the first flow. During the second crop, no matter how heavy or how light, there is no swarming, even from colonies supersedeing their queens or from crowded comb honey colonies.

If the first crop of alfalfa blooms and yields nectar, the honey is extracted after the close of the flow, early in July.

Our extracting outfit consists of one horse, a light spring wagon for carrying tent, two-frame Cowan extractor, uncapping tubs and Daisy spring wheelbarrow. The two-frame extractor is very handy to carry around, but its capacity is so limited that I shall buy a larger machine.

I have had but one helper, who extracts and fills cans while I uncap and bring in the honey. H. D. Burrell once said in the Review that "any boy with a non-reversible, two-frame machine could extract as fast as one man could uncap the combs." I have never been able to hire a *man* who could extract with a two-frame reversible machine *much* faster than I could bring in the combs and uncap them myself, and I am a feather weight if there ever was one. However, I use but few of those thin, wafer-like, Heddon combs, which Mr. Burrell seems to prefer, and that makes a big difference.

The problem with us is to extract the honey from all the yards before the opening of the second flow. We have never made any large record, 900 pounds in one afternoon being the largest, while I notice that N. E. France reports over a ton in the same time, with a four-frame Cowan machine. However, our honey is very thick and gummy and difficult to extract, so we can hardly hope to equal Eastern records.

CAN'T USE BEE-ESCAPES.

I use the Coggshall plan of flopping the quilt and smoking, and, by so doing, most of the shallow supers are removed without shaking or brushing individual combs. Some of the deep supers are removed the same way, but most of the deep frames have to be shaken and brushed. Bee-escapes are entirely out of the question, for when our honey is cold it cannot be extracted.

The second flow from alfalfa may begin, (if at all) late in July or early

in August. At the close of the second flow the honey is again extracted.

The supers are stacked up out-doors, and are soon cleaned up by the bees. At some convenient time in October, November, or December, the bees are again put in winter quarters, and the season's active, out-door work is done.

In addition to the work mentioned above, we sometimes make one or two more visits to some of the yards when we desire to have a large number of frames of foundation (full sheets) drawn out.

I am working toward the four-visit-a year system of Mr. E. D. Townsend, although, as my yards are so near home, it is not so necessary, but none the less desirable, to reduce the number of visits.

And, in closing, let me say, that to those who believe in the saving gospel of "more bees," that article by Mr. E. D. Townsend was the most valuable, by far, that has ever appeared in the "Review."

BOISE, Idaho, Nov. 7, 1903.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

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Flint, Michigan, Jan. 10, 1904

KEEP More bees.

ADOPT short cuts.

MAKE your own hives.

ATTEND bee conventions.

READ all of the bee journals.

JOIN the National Bee-Keepers' Association.

STUDY the changing conditions, and take advantage of the changes.

N. E. FRANCE, R. C. Aikin and P. H. Elwood, are re-elected and E. R. Root holds over, as no one else received a majority vote. Amendments carried.

WISCONSIN bee-keepers will hold their annual convention Feb 3rd and 4th, in Madison, and the editor of the Review expects to be with them.

CAPT. J. E. HETHERINGTON, one of New York's most prominent bee-keepers, passed away with the end of the year—about ten o'clock New Year's eve. There are no particulars and there is just room to make this announcement.

BEE-KEEPERS' MEETINGS IN YORK STATE.

Mr. N. E. France, of Platteville, Wis., General Manager of the National Bee-Keepers' Association, has been secured by the Bureau of Farmers' Institutes for New York to speak at a series of Bee-Keepers' Institutes in connection with the local bee-keepers' societies as follows: Canandaigua, Jan. 6 and 7; Romulus, Jan. 8; Cortland, Jan. 9; Auburn, Jan. 11; Oswego, Jan. 12; Amsterdam, Jan. 13; Syracuse, Jan. 14 and 15. The meeting on the 15th will be that of the New York State Association of Bee-Keepers' Societies.

The editor of the Review expects to accompany Mr. France on this trip, and wishes to meet as many as possible of his friends at these meetings.

BOUQUETS FOR THE REVIEW.

When sending in their renewals, subscribers have said some very kind

things of the Review. Of course there is not room, nor would it be advisable, to print all of them, but the following are samples:

The Review is high in price—eight cents a copy—but I can't afford not to have it. It is worth to me many times what it costs.

When so many are crying down bee culture as an exclusive occupation, I find great comfort in turning to the Review as a champion of bee-keeping as a specialty.

I have often wondered how you could get $1.00 a year for the Review when there is a weekly and a semi-monthly at the same price, but, after reading the Review for a year, I can see how it is.

I wish to thank you for that editorial about making our own hives. The editorial shows plainly to me that you have the welfare of bee-keepers at heart. I am making my hives this winter at a cost of only about 45 cents each, including frames and all.

The Review is like a tonic to me. I always rise from its reading with stronger impulses and higher ideals, not only in the bee-keeping line, but as a man and citizen. I am making a success of bee-keeping, and the inspiration from the Review is a prominent factor.

Although I had kept bees 18 years, I did not have confidence in myself to start an out-apiary, but some of your special articles roused me up, and, last year, I started another apiary, and did first-rate. I shall start more as fast as possible, and I have the Review to thank that I will not always be plodding along with a few colonies in a home-apiary.

TO ABANDON THE QUEEN TRADE.

After having been in the queen trade for 25 years, I am about to abandon it. For the last few years I have reared no queens myself, buying most of them of Mr. J. P. Moore, of Morgan, Ky., he being the breeder who has furnished me the "Superior Stock." Buying queens, and guaranteeing safe arrival, purity of mating and safe introduction, even with the greatest patience and good sense all around, leads to more or less friction, and a vast amount of correspondence. Other duties are constantly making demands upon my time. I am away from home much of the time, and the most troublesome part of my business for Mrs. Hutchinson to look after, when I am away, is the queen trade. There is also another point: It is quite likely that I have received the lion's share of the queen trade of my readers. This will now go to my advertisers, giving them better satisfaction. Instead of putting more irons into the fire, I think I will accomplish more if I take out some of them, hence out comes the queen-trade-iron. I shall do no more advertising of queens, and when the orders that I now have on hand are filled, I shall be done.

MICHIGAN, STATE, BEE-KEEPERS' CONVENTION.

Michigan bee-keepers will hold their annual convention, Feb. 25th and 26th, in the chapel at the Agricultural College, near Lansing. The State Dairymen will hold their annual convention at the same place Feb. 23rd, 24th and 25th, their last session ending at noon on the 25th, and the bee-keepers holding their first session on the afternoon of the same day. The Farmers' Institutes will hold their "round-up" Institute at the Agricultural College from Feb. 23rd to 26th, inclusive, and on Friday afternoon the bee-keepers will meet with them in joint session, when the Hon. C. B. Collingwood will give a talk on "Farm-Law," in which he will include the "Rights of Bees."

Prof. Hedrick, of the College will give a talk on "Bees and their Relation to Fruit-Growing," considering their value in cross-fertilizing the flowers, and the injury they may do in conveying destructive diseases and insects, such as the San Jose scale, as well as the damage done by bees to fruits, etc. This will be something along the same line as the talk given by Prof. Waite at Buffalo, in 1901. Ernest Root has promised to be with us, and, taking it all in all, it promises to be a most interesting meeting.

On account of the "round-up" Institute, half-fare will be given on all Michigan railroads. Dinner and supper may be secured at the College, but visitors will have to go to Lansing for their lodging and breakfast. The distance, however, is only four miles, and it can be made on an electric car for only five cents. Headquarters for bee-keepers at Lansing will be at the Wentworth hotel, where excellent fare may be secured at $1.50 a day. Further particulars and a program will be given later.

SUPPORTING FRAMES ON NAILS—FASTENING SUCH FRAMES FOR MOVING.

Two or three months ago I described some frames used by Mr. E. B. Tyrrell, of Davison, Michigan. Soon after the appearance of the article one of my subscribers asked how such frames would answer when it was desirable to move the bees—how the frames would be fastened. I knew there were several ways in which they might be fastened, but I wished to see how Mr. Tyrrell would go at it, so I sent the inquiry to him. Here is Mr. Tyrrell's reply:

"Friend Hutchinson:—In regard to how I would fasten those frames that hang on nails, for moving, I would say that in *most* cases I would *not fasten them*. I have moved a good many bees on loose, hanging frames, and never had any trouble. Occasionally, a few might get out of place, but I could never see that any damage was done. I would not want to move bees at a time when the roads were in such a condition that there would be any danger of the frames shoving together, if loaded crosswise of the wagon. Of course, one would have to be a little more careful in handling the hives while loading and unloading them.

But, to answer the question asked, I would say, get some strips of wood cut ¼x1½x the length of the width of the inside of the hive. As the space between the ends of the frames and the hive is just ¼ inch, you will see that if it wasn't for the nail-ends of the frames, the strips would just push down between the ends of the frames and the hive, but as the nails prevent, we must cut a saw-kerf, for each nail, within ¼ inch of the opposite side of the strip. This will allow the piece to slip down over the nail ends, firmly holding them in place, both endwise and cross-wise, and, by puting them in place a few days before moving, the bees will glue the frames to them, so no bottom-spacer will be needed, unless the hives were subject to very rough handling. Of course, these pieces could be made narrower than 1½ inch, only it would not furnish so good a bearing at the ends of the frames, and a bottom-spacer would be more likely to be necessary.

Another way of fastening them would be to use little staples, driving them straddle of the nails. The bottoms can be kept from swinging by crowding in some strips between the bottom ends of the frames and the hives, the nails slipping up in the saw-kerfs made.

Still another way would be to tack thin strips of wood across the tops of the frames, near each end, putting a tack into each frame.

Now, the above could be done if you want to fasten the frames, but it would be very seldom that I would fasten them. Take a frame full of brood and honey, and the nail will generally sink just a trifle into the wood; and then the bees will build little piles of propolis on each side of it, so that, while the frame will lift up easily, it will not slide sidewise so very easily. Remember I do not use tin rabbets in my hives.

Now as to why I use such a frame: With frames with wooden ends, I very often split off those ends in removing the frames from the hives. I know some will say to not pry on the ends but on the thick top bar. This you cannot do without sticking your pry into the comb, if you get a lift on the frame. Of course, you can pry sidewise on the frame, but that doesn't lift them. Again, one sometimes wishes to "jounse" a super of combs, and I have broken a good many ends that way. Again, it is always necessary to use a pry to get out a frame, and I want a hive that I can go through and remove any or all frames without using a *pry*.

Another item to consider is the "first-out" frame. Factory made frames are expensive, and you can't get the average planing mill to make them good enough, if made after the factory pattern. So I get my top bars made ⅞x¾x17 inches; end bars ⅞x¼x9½ inches; bottom bars ⅞x¼x17 inches, making all plain sawing. It can be done at any planing mill and should not cost over *one cent each*.

I have used the Hoffman, all-wood, staple-spaced, nail-spaced, and others, and prefer the loose hanging, nail-end frames to any. I have had trouble with the Hoffman by having the sides split off where glued together by the bees.

In conclusion, let me say that I find the more simple, less complicated, and fewest arrangements one can have around bees, the more bees a man can handle, the more money he can make, and the better satisfied will he be with the bee business."

STICK TO ONE THING.

I sometimes wonder if a man realizes how much he loses by changing from one occupation to another. Each year a man learns more and more about his business; learns of its advantages and disadvantages, and how to make the most of them. On this point, however, there should be a word of caution. Before sticking to one pursuit, year after year, a man ought to be as sure as possible that that pursuit is the best one for him. If a man is lost in the woods, and persists in going in a certain direction, if that direction is the *wrong* direction, the more he *persists* the farther he gets from home. First, he better sit down and consult his compass, or the sun, or stars, consider his bearings carefully, and be as positive as it is *possible* for him to be, that he is going in the right direction, before persisting. But, after a man is certain, or reasonably certain, that he is going in the right directfon, he should not turn back on account of obstacles—they should be overcome.

Not long ago a man said to me "I wish that I could get into some business like yours. I don't know of a business in which a man can be as independent as you are. Money is always coming in, and you always seem to have money for anything you need. You can write an article in a day or two for a magazine, send a few pictures with it, and get $40 or $50 for it." And so he continued on, until I asked him how long he had been engaged in his present business. It was about a year. I very kindly told this young man that back of the ability to write a magazine article in a day or

two, were 30 years of hard work, and if he would follow his present business as faithfully, and as enthusiastically as I had followed mine, it would then probably appear as rosy (to an outsider, at least) as mine did to him.

A man who had been dabbling in photography a year or two was once looking over some of my photographs, and praising them in a way that made my cheeks tingle. Mixed with the praises was the frequent exclamation of "My! you must have a fine lens." Before he left he was very particular to know what make of lens I used. I know some of the manufacturers of lenses head their advertisements with "It's all in the lens." Beg your pardon, Mr. Manufacturer, it *isn't*. It's all in the *man*. Of course, a lens appropriate for the work is very important, but to know how to *use* the lens properly is most important. This gentleman who was so enthusiastic in his praise did not know that for ten years I had been studying and practicing photography just as you and I have studied bee-keeping—reading all of the journals and books on the subject.

It is the "stayer" in any business who suceeds. Each year he learns better and better how to conduct his business—how to avoid the mistakes.

What hope would *I* now have to become a successful physician? By the time that I had finished my course at college, and had sufficient practice to become really an expert, a man whose services were really valuable, my race of life would be nearly run. I began the study of bee-keeping when only 18 years old—have always been in the bee-keeping ranks, and hope I shall never be so foolish as to desert them.

PREPAREDNESS IS THE SECRET OF MOST SUCCESSES.

Many men have succeeded because every possible preparation had been made in advance. They have not ventured *hastily*, and illy-prepared. For six years before I began keeping bees I had been studying the subject in every possible manner—reading books and journals, and visiting bee-keepers. When I began keeping bees I probably knew as much about the business as a physician knows about his business when he first begins practice.

When I began publishing the Review I had, for ten years, made my living from the keeping of bees, I had had several years' experience in writing for the press, and had a large acquaintance among bee-keepers. For two or three years I had had in mind the publishing of the Review, and was making all possible preparations—saving up, classifying, and booking a list of names of bee-keepers, was one of the preparations.

The moment it was decided to hold the National Association in Los Angeles, I began planning to make my trip to California a financial success. The expense of the trip would certainly reach close to $100. How should it be met? First I made arrangements with the Santa Fe railroad for transportation in exchange for adv. space. Through a complication, which it is unnecessary to explain here, there was considerable difficulty in making this arrangement with the railroad, and I had to write numerous letters, and make three trips to Detroit to see their agent, before the arrangement was completed. I next made arrangements with the hotel in Los Angeles to pay my bill by an advertisement for the hotel. Then Mr. France and myself made plans to occupy the same berth while on the trip. We met in Chicago and filled a basket with provisions to eat while on the road. About once a day we had a warm meal. It may be thought that some of these details are unimportant, but it must not be forgotten that details in the aggregate

make up the whole. About three months before the convention I secured the list of members of two of the leading bee-keeping associations in California. These were compared with my list of subscribers, and with each other, to get rid of duplicates, and to each man, who was not a subscriber, a copy of the Review was sent, as a sample, each month, until the time of the convention. I took my camera with me, made a picture of a small portion of the Grand Canyon, also of the car and the bee-keepers who made the trip in it across the continent. Nearly every bee-keeper on that trip bought one of each of those pictures. I also made a group-picture of the members of the Association, and sent one to each member with the privilege of sending me 75 cents for it, or else returning it, and the postage would be refunded. Special clubbing rates were given on the Review and picture, if both were taken. As the result of all this careful preparation, I sold about 150 pictures, and increased my subscription list by about 75 subscribers. The trip was a grand success, financially, besides enabling me to secure some most excellent matter for the Review, and make some most delightful acquaintances. All this was largely the result of *careful preparation*. I may bring ridicule upon myself for thus making myself the hero of my own story, but I will bear it cheerfully if I can thereby encourage and help others to make like successes.

If there is any business in which prepardness counts, it is in that of bee-keeping. How many, *many* times has a crop of honey been well-nigh lost from lack of preparation on the part of a bee-keeper. Now, *now*, is the time to prepare for next season. Get your hives, sections, foundation, and, above all, cans, or some kind of storage, for holding all the extracted honey that your bees can possibly bring in next year. If you had heard the tales of woe that have been poured into my ears, of daily trips to the railroad, waiting and watching for the cans that never came, until the harvest was over, you would not wonder that I write thus strongly. It was always the same story: "The cans would have been there in time *if*"—Don't *have* any if. Get them *now*. I have seen bee-keepers have to press into service churns, wash-boilers, pans, pails, lard-cans, candy-pails, etc., and then lose much of the crop from a lack of storage.

This is only one thing. Let the opening of the season find you ready in *every particular*.

Having made a plan and careful preparations for carrying it into execution, I would not advise that that plan *never* be changed. On the contrary, success may depend upon the suddenness with which a man can change his plans. A general always goes into battle with a well-defined plan of what he expects to accomplish, and *how* he will accomplish it; but the fortunes of war may compel him to change his plans several times before the battle is over. But here is the point: Because his soldiers are well-fed, well-equipped, and well-prepared for battle, does not hinder the carrying out of *any* plan that may be forced upon him in an emergency. It is the same with bee-keeping—*be ready*; for "preparedness is the secret of most successes."

A BEE JOURNAL IS A NECESSITY— NOT A LUXURY.

In accordance with my request, the most of those who have ordered the Review discontinued, have been kind enough to give the reason why, and the excuses most often given are "no time to read," and "can't afford it." While the reading of a bee journal may be very enjoyable to a bee-keeper, it is in no sense a luxury—it is an absolute necessity, almost as much as

hives, sections or comb foundation. We used to hear bee-keepers say they "couldn't afford" to buy foundation, just as though it were a luxury of some kind. As well might the merchant say he couldn't afford to buy goods, the manufacturer that he could'nt afford to buy anything that brings him in more money. If what a man buys brings in more than it costs, then it is a profitable thing to buy— it is not a luxury. If it brings in less than it costs, then it is unprofitable to buy it, and its use should be shunned, unless it is bought because of the pleasure that comes from its use. For $5.00 a man can get about all of the journals there are published in this country, and, if he ever expects to make a success of bee-keeping, or make as great a success as he *might* make, he will spend his first and last dollar for these journals. When I was keeping bees, before I began publishing the Review, I read all of the journals published, and found it profitable to do so. Sometimes one little item alone was worth dollars and dollars to me. A man can't know too much about his own business; and he who can't afford to buy or read a bee journal, will never become a bee-keeper worthy of the name. He who would succeed, simply can't afford *not* to read the journals— *he must do it.*

ADVANTAGES OF ORDER AND SYSTEM.

Let me give an illustration or two regarding the value of order and system. Since I began publishing the Review the cuts have been accumulating until now there must be two or three bushels of them. Until recently they have been piled on long shelves in a big cupboard. Whenever I wished to find a cut I had to look them all over, pile them over and over, until the desired one was found. I have looked as long as half an hour before finding the one that was wanted. Now they are arranged in a large cabinet, and indexed, and I can find any particular cut in *half a minute.*

I am sure that I do my office-work in one-half the time, and with greater pleasure, than I did before I had it thoroughly systemized and equipped with labor-saving devices. My desk stands in the corner, with its back against the north wall of the room. At my left is the west wall, and, firmly attached to this wall, is a little shelf upon which stands my typewriter. I sit in an office chair that has a revolving seat, which enables me to turn instantly, without rising, either to the typewriter, or the desk. At the left of the typewriter stands the dictionary in a holder. In the lower part of the desk, at both the right and the left, is a tier of drawers, each drawer being devoted to some particular use. At the right of the desk stands a cabinet fitted with shelves for holding all of the bee journals, each in its place. On top of the cabinet is the letter press, in which is kept the book into which are copied all of the letters I write. In front of me, above where I write, are 28 pigeon holes, each labeled according to the use to which it is to be used. Above these pigeon-holes is a book-case, containing, among other things, a complete set of back volumes of the Review, substantially bound. Before getting these bound, how many, many times have I had to hunt and hunt for some particular issue. On top of the book-case stand a row of letter files containing all of the letters I receive—all arranged alphabetically. I can find any letter in half a minute. On the left end of my desk, to the right of the typewriter, stand a series of boxes, or trays, in which is kept the subscription list of the Review, the names being written on cards that stand upon their edges in the boxes just mentioned. Colored cards with projecting tabs upon their upper edges project above the general upper line of the cards. Upon these projecting tabs

are printed the names of the States. Each State is also divided off with similar cards having the letters of the alphabet upon the upward, projecting tabs. Suppose I wish to find the name of John Johnson, Midland, Mich., I can see the word "Michigan," instantly. I know just about where to look for it, as the States are arranged alphabetically in the boxes. Having found Michigan, I can almost instantly put my finger on the tab marked "J," and all of the "J's" in Michigan are all together just behind this card. They can be lifted out and shuffled over, and the card of Mr. John Johnson found very quickly. These cards are printed with the years, for 25 years ahead, spaces being left to write in the months. Mr. Johnson's subscription is advanced by simply writing the appropriate month before the appropriate year, and his card put into the box or tray in which are kept the names for that certain year, and the names for each year are kept by themselves. Little tabs on the tops of the cards indicate in which month the subscriptions expire. If I wish to write to the subscribers whose subscriptions expire with a certain month in a certain year, it is no trouble to find them. There are several other advantages about this card system that might be mentioned. For instance, when a man orders his paper stopped, we simply remove the card, and it is off out of the way. In a book, the name remains, and eventually, the book is lumbered up with a lot of dead names that must be looked over every time the list is examined. At the right of the desk is another set of cards in which, or by which, is kept the list of names to which samples are sent. Tabs on the upper edges of the cards show how long the card has been in the list, and what kind of advertising matter has been sent. When a subscription comes in, this list is always examined to see if this man is on the sample-list. If his name is found, the card is taken out, stamped with the date of his subscription, and filed away. It is sometimes interesting, yes, and important, to know how long a man will sometimes receive advertising matter before he finally subscribes. We learn, eventually, how long it pays to keep a man's name in the list. I also have ways of determining, in most instances, what kind of advertising has induced a man to subscribe. A record of this is kept, and, gradually, I am learning that some forms of advertising are almost valueless, while others are so good that it is simply impossible to dispense with them. But I have said about enough on this point, suffice it to say, that on about six feet square of floor space is concentrated and systemized all of my office work. I can sit in my chair and place my finger almost *instantly* upon anything that I wish to find.

System has been defined as "always doing the same thing in the same way," and one of the great gains in systemizing, in "always doing the same thing in the same way," is that it allows of the bringing in of hired help. When a man "always does the same thing in the same way," he can teach some one else how to do it, but if it is done differently at different times, and some sort of judgment must be exercised each time, the hired help may not always use the best of judgment. Mr. Townsend well-says, in this issue of the Review, that in the management of out-apiaries, there must be some system that hired help can understand and carry out throughout the entire season. Since I have my business so thoroughly systemized, I can go away and leave it in charge of my wife, or one of my daughters, and be gone from home two or three weeks if necessary. Of course, there are some kinds of business in which it is almost impossible for the owner to leave it, but, in many instances, I think there is some-

thing wrong with the management when a man *can't* get away from it if necessary.

I do not wish to convey the idea that the managing of an apiary can be systemized in the same manner as it can be done in office work, but, for pity's sake! you can pile all of the empty hives in one place can't you? You can have another for the empty supers, another for supers filled with sections, another for honey-boards, another for bottom-boards, and so on, through the whole business? You can sweep up the floor, and have a place for each tool, and keep each in its place. I have actually felt sick at heart when I have entered some honey-houses. A cyclone could not have scattered things worse than I have seen them scattered.

Then there should be a systematic way of working in the apiary. I don't suppose any man goes into the apiary and extracts the honey from one colony here, from another there, but he begins at one row, and goes straight through, extracting from each colony that needs it. This same method, or system, should extend through all of the work that is done. There ought, also, to be some method of marking each hive, where there is a queenless colony, for instance—something that could be easily and quickly seen without squinting at some written record. I believe some man used a brick on top of a hive. The brick on the side had a meaning, on its edge, another meaning, on end, another. Then whether the brick was in the middle of the hive, or toward the front of the hive another.

But I have written enough. Begin at the bottom and systemize your work from bottom to top. Systemize it all that it is possible. Bring in order. "Always do the same thing in the same way," as much as possible. By so doing you can accomplish twice as much work, and feel good all the time you are doing it.

HIVE-MAKING.

Shall it be Done by the Bee-Keeper, or Shall He buy His Hives?

In view of the sharp advance in the price of hives, I, a short time ago, in the Review, urged bee-keepers to make their own hives. Bro. Root, of Gleanings copied my editorial, and commented upon it to the extent of a page or more. Bro. Root and myself have been friends for many years, are friends now, and will probably remain as such. Our friendship is not dependent upon the fact that we usually agree, but rather that it is of such a character that it allows us to indulge in good hard arguments, without any injury to the bond that binds us. Such being the case, and this subject being really an important one, I take pleasure in copying the remarks of my Bro. editor. Among other things he says:

Part of what Mr. Hutchinson says is true. There are times and places where some bee-keepers can go to their nearest planing-mills and get their hives made, and perhaps save some money. This is conceded; but in the great majority of cases it will be a money-losing venture, I think. The large manufacturer of bee-hives can, as a rule, supply hives ready to put together in lots of 100 at a price equal, or nearly so, to what the bee-keeper would have to pay for the same grade of lumber at the average planing-mill without any work put on it. This seems like a broad statement, but let us see how it works out in fact. Good clear first-class lumber, such as the manufacturers are now putting out in their hives, with few or no knots in, will cost at the planing mill between $50 and $60 per 1000 feet; but we will say it is 5 cents a foot. A standard eight-frame Dovetailed hive has 20 feet of lumber in it, including waste necessary. This makes the lumber in that hive cost $1.00. At 6c a foot it will cost $1.20. Let us now look at a 1904 catalogue. We find that the price of an eight-frame hive in lots of 100 is $1.25 (for it would be folly for any one to make less than a hundred hives).

he will pay, then, almost as much for his lumber, or perhaps just as much, as the regular supply-manufacturer would charge for the hive all cut ready to put together without any waste. But labor has advanced, and the mill-man will not charge less than 40 cents an hour, and possibly 60. He is not familiar with hive-making. His saws are coarse toothed, and his men do not realize the importance of extreme accuracy in hive-making. The hives at the ends will not be lock-cornered, for the mill has no machinery for that purpose. The boards when put together will have to depend entirely on the nails for the strength of the corner.

Perhaps it might be said that the bee-keeper will have to pay freight on his factory hives, but they will be accurately cut and standard in every respect. I have seen a lot of planing-mill hives, and heard some of the bee-keepers who had hives made in that way tell their experience. The stuff was irregular, the frames would not alternate, they were very rough, and the work was altogether unsatisfactory.

But perhaps some one does not see how a manufacturer can furnish a bee-keeper a complete hive at the bare cost of the lumber in the open market. The supply manufacturer can buy by the cargo and a comparatively cheap grade of lumber, and cut around the knots. Here is a board that is 12 or 16 feet long. We will say it has four or five knots in it. Out of this board he may be able to cut out of the clear stock two or three ends or two or three sides. There will be several boards that have knots in them. The manufacturer, who is in the business, can use these for a great variety of purposes, and not lose money on them. Some of them will go into the ends of square (can) boxes; others will be used for crating; some will be used for a great variety of purposes too numerous to mention. The bee-keeper who desires to have his hives made in a small way would have to buy clear stock at a price of $50 or $60 per 1000, for the planing-mill could not afford to throw away short boards having knots in them, for it would have no use for short knotty boards. Its business is making sash-doors, blinds, door-cases, window-frames, etc., and it can use only long stuff. It will, therefore, be necessary for the bee-keeper to buy clear stock, which is expensive, as he cannot afford to have hives with loose knots in that are liable to fall out. He may argue that he can use a cheap grade of lumber; but experience with thousands of customers shows that the average customer won't have such lumber in hives at any price.

It is true there has been a sharp advance in prices on bee-supplies; but the marked advance in lumber, in labor, and in all common commodities, has made this all necessary. Prices on bee-goods have hardly kept pace with other commodities.

Mr. Hutchinson suggests that, with the prices in view that hives are apt to reach, it will be well for bee-keepers to rig up a buzz-saw or a horse-power. The old adage, "Don't monkey with a buzz-saw," is good advice for nine men out of ten. There are very few people who have mechanical ingenuity enough to run a buzz-saw without coming to grief. If they do not saw their fingers and maim themselves for life, they may do very bad work. Mr. Hutchinson got up a home-made buzz-saw years ago, because he is a natural genius and a fine mechanic. But where there is one W. Z. H. there are thousands who do not know even the A. B. C.—much less the W. Z's.

A short time ago we published a letter from one of our friends who had bought a buzz-saw, thinking he could make his own stuff cheaper. After he got through he took account of the cost, and found his hives cost him nearly or quite twice as much as those he could buy at a factory. He had lost one finger; his hives were poorly made, and all he had was the experience and a lot of supplies that were bound to be a continual annoyance, and a fifty-dollar buzz-saw "for sale cheap."

Now, in taking this view from the standpoint of the manufacturer I have tried to give the exact facts as I happen to know them—not because I am interested in having bee-keepers buy hives from the Root Co., but because I am anxious to have the exact facts come before the public. I know that Mr. Hutchinson will not misconstrue my motives, even if he doesn't see the matter as I do.

I suppose that what Bro. Root says about the manufacturers of hives being able to put into said hives a grade of lumber that would cost the ordinary buyer $50 or $60 a thousand. is true. The last time that I was at Medina, I

saw a man cutting up lumber that cost $28 a thousand; and I told in the Review of the skill and understanding that is shown in so cutting that lumber as to leave the stuff, or pieces, for hives, nearly clear of knots—the short knotty pieces cut out being used for something else. It may be true that the average customer, who sends away for his hives, and pays a high price for them, will kick, and kick *hard*, if there are many knots in the lumber, but the man who buys his own lumber, and has it cut up at the planing mill, lets those knots *go right in*; and for practical purposes, his hives are exactly as good as though made of clear stuff lumber. Most of the knots are sound, and do no harm whatever in any part of the hive, even in the cover, while a loose knot does no harm in the side or bottom of a hive. One or two wire nails driven through the surrounding wood into the knot will hold it in place. Even a knot hole may be covered on each side of the board by tacking on a piece of tin. After the hive is painted it will scarcely be noticed; and, even if it were, what of it? We are keeping bees to make money, and not that our hives may all be as perfect as so many pieces of household furniture.

HIVES AT SIXTY-FOUR CENTS.

Here in Flint we can buy sound pine lumber for $28 a thousand. It is just about such a grade as I saw them cutting up at Medina. It contains knots, but most of them are sound. Since I have quit keeping bees I have been selling off my old hives and supers. Along toward the end of last summer there were some hives that had no covers, and I went to the mill and bought lumber for the ordinary flat covers. I was able to get it 13 inches wide, for $30 a thousand; and, using the poorest pieces for bottom-boards, I could get enough sound pieces for covers. Finally, all the hives were sold, and still neighboring farmer-bee-keepers kept coming in after hives, and I would send an order to the mill for a dozen more hives. I kept this up until I had perhaps fifty or sixty hives in all cut out. Right here let us call attention to some of Bro. Root's figures. He says a standard, eight-frame Dovetailed hive has about 20 feet of lumber in it *including the waste*. I make only about ten feet in it. It does not seem as though there could be one-half waste. Perhaps Bro. Root figured in the frames. I did not, as I bought the frames, but the frames certainly would not use more than two feet of lumber. The lumber for the sides cost $28 a thousand. The mill cut out the stuff for the hives, covers, sides, bottom-boards, cleats for covers and bottom-boards, and delivered the stuff at my house for 37½ cents *a hive*. I hired a man to nail them up and paint them, which cost, including nails and paint, (one coat of paint), one shilling a hive. I did not hire this done because I could not do it myself, but because I had plenty of other work that paid me better. I bought the frames of M. H. Hunt. They were the all-wood frames, worth, at retail, 1¾ cents apiece. Eight frames cost 14 cents. Hive complete, one story, with bottom, cover and frames, 64 cents. There was not a piece of the lumber that was wasted. Bro. Root sells such a hive as this, singly, for $1.60, if I mistake not, or at $1.25 by the 100. Perhaps mine may be thought an exceptional case. It is possible that it is better than some will be able to do, but Mr. J. E. Johnson, of Williamsfield, Ills., writes me that he is making his own hives this winter at a cost of only 45 cents a hive. Bro. Root says it is folly for one to make less than 100 hives. It wasn't for me. No, the hives were not dovetailed at the corners, and the frames were not of the Hoffman style, both of which cost a little more than in the hive I have described, but I would rather have hives and frames made as

I had them than to have the hive-corners dovetailed, or the frames of the Hoffman type.

MANUFACTURERS HAVE "OVER HEAD EXPENSES" AND PROFITS THAT MUST BE COVERED.

Now then, having given this illustration, let me go still further and be just to Bro. Root, and all other manufacturers. Suppose I should go into the business of manufacturing hives to sell, go into it on a large scale. First I must have a building, power, machinery, help, book-keepers, insurance, interest, taxes, advertising, and, above all this, there must be a profit. I have not argued, nor intended to convey the impression, that supply dealers were asking too much for their goods. It is impossible for them to avoid these "overhead expenses," as they are termed. It won't answer for them to figure up "lumber so much, cutting up so much, nailing and painting so much," as I did in the hives that I made, or had made; but here is the point, and it is the only one that I expected to make, viz: The man who is so situated that he can get his lumber cut up at a mill, cut up in a satisfactory manner, and at a reasonable price, can *save* all of these "overhead expenses" that must go to the general manufacturer. I think there is not a manufacturer who will not admit this. One thing more, I suppose any one who thinks the present manufacturers of hives are making too much profit, is at liberty to go into the business and offer them as much cheaper as he sees fit.

BEE-KEEPERS HAVE LEISURE IN WINTER.

Here is another point, and it is a *big* one: Bee-keepers in winter have hours, days and weeks of leisure. They have nothing else to do than make their hives and fixtures for the coming season. What folly for a man to send away his money to buy hives, and then sit around all winter and do nothing.

I don't advise *everybody* to buy a buzz saw, or to set up a windmill, horse power, or gasoline engine. Unless a man has taste or ability in this line, it would probably be money worse than wasted, but any one can get a sample hive, take it to a planing mill, select the lumber that will answer his purpose, and have the hives cut out as I have suggested; just plain boxes without any filligree work on them, plain, all-wood frames to match, and he must be a bungler indeed, who could not nail them up and paint them.

It may seem like heresy, but I honestly believe that we can get along without bottom boards—just use the plain earth as Mr. Tyrrell has been doing the past season. I also believe that his Paroid Roofing covers will prove all right. In fact, I am delighted with the cheapness and simplicity of his hive outfit. One thing is certain, if I needed 100 hives I should not pay $125 for them, and this is said with no thought or intimation that manufacturers are charging too much for their hives; that there is anything like a trust or combination that is trying to put prices above where they ought to be. If manufacturers are charging too much, it is only a question of time, and a very short time, too, when somebody else will be offering them at a lower price. As I have already explained, the point is right here: The manufacturer has a lot of expenses that do not come to the man who is making hives for himself. Besides, the manufacturer must have a profit.

SMALL, CHEAP POWERS FOR HIVE-MAKING.

Then there is the question of freight. It may not be a serious item in some parts of the country—in others it is a very *big* item. A Barnes foot-power saw can be bought for $35. The interest on this sum would not be over $2.00 a year. It would not require the

freight on very many bee hives to amount to this sum. Of course, the buying of a buzz saw won't make your hives; and if you have very many hives to make you will need some other power than foot-power. I have made hundreds of hives with a foot-power saw, and I know what I am talking about. Many bee-keepers own a horse, and it is an easy matter to rig up some arrangement so that the horse can furnish the power. My good friend, R. L. Taylor, over at Lapeer, Mich., has a large wheel so arranged that the horse can walk around inside of it, carrying the wheel with it, while a large rope in a groove around the outside of the wheel conveys the power to the counter-shaft of the buzz-saw. Mr. Geo. H. Kirkpatrick, of Rapid City, Mich, has a horse power made by putting a large wheel upon a large upright shaft, the wheel being so high that the horse can walk under it. The horse is hitched to a sweep that projects from the large upright shaft. A chain passes around the large wheel and then around a pulley on a counter shaft. Friend Kirkpatrick not only runs a buzz-saw for hive-making, but also a turning lathe, and a scroll saw, and I don't know what all. Another good friend, away up in the far upper point of the lower peninsula of Michigan, Mr. C. F. Smith, of Cheboygan, has a little steam engine that not only warms his shop in winter, but runs his buzz-saw for hive making, also his bone cutter for cutting up bones for his large flock of poultry. Another good friend, at Swartz Creek, Mich., Mr. F. D. Bloss, as I described and illustrated in the Review last June, has a windmill that pumps his water, grinds his feed, shells his corn and runs a buzz-saw for hive-making. I could go on and mention many others, but the foregoing are sufficient as illustrations. As I have already said, unless a man is adapted to such work as this, he better let it alone, but he can certainly get his hives and frames cut out at a planing mill, that is, he can if he will divest his mind of the idea that hives must have lock-jointed corners, adjustable, reversible, bottom-boards, peaked-roofed covers, and frames with beveled and notched end-bars. Just a plain box with plain wood frames, and a plain flat cover over them, are all that is needed.

Bro. Root hopes I will not misconstrue his motives. I am sure that I do not. I know that he is handicapped in an argument of this kind, but I am sure that he tries to be fair. The only mistake that he made, or the most important, as I look at it, is in thinking that bee-keepers will find it necessary to pay $60 a thousand for suitable lumber for hives, and in overlooking the fact that in making their own hives, bee-keepers save the overhead expenses and profits of the manufacturer. Perhaps it will be said that the bee-keepers will also have some overhead expenses. Not many. Every bee-keeper has a shop or honey house of some kind. He can't do business without it. It may as well be used for hive-making in winter as not. Nearly every bee-keeper has a horse. If he is in the business extensively he cannot do without one. The horse better do some work than not; the same with his owner. The home-hive-maker has no book-keeper to pay, no advertising bills to figure in. Then there is the profit to the manufacturer, and the freight. I am sure that not only Bro. Root, but any manufacturer, is willing that bee-keepers should consider these things, even if it should result in some of their trade being cut off—there will be a whole lot left. If a man finds it cheaper and better for him to buy his hives of a manufacturer, he would be very foolish to do otherwise, and *vice versa*.

AN IMPORTANT SUBJECT.

Perhaps some will think that I am taking a whole lot of space with this

subject, but when single-story hives, in small lots, cost $1.60 each, or $1.25 each by the hundred, it becomes an *important* subject. Manufacturers may not be able to furnish them for less, but many bee-keepers can make them for themselves for much less.

Bro. Root, if I have made any mistakes, I shall be delighted to have them pointed out. I do not argue as does a lawyer, for the sake of "beating the other fellow," but for the sake of bringing out the *truth*, and I don't know as it is any worse for me to be shown to be in the wrong than it is for "the other fellow."

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Famous Trains of America.

Among the leaders are The Overland Limited. Chicago to San Francisco, and The Pioneer Limited, Chicago to St. Paul. Both trains run via the Chicago, Milwaukee & St. Paul Railway. If you are contemplating a western trip you should see that one, or both, or these famous trains is included in your itinerary. Rates and descriptive booklets on request.

ROBERT C. JONES, 32 Campus Martius, Detroit, Michigan.

I am advertising for B. F. Stratton & Son, music dealers of New York, and taking my pay in

MUSICAL INSTRUMENTS.

I have already bought and paid for in this way a guitar and violin for my girls, a flute for myself, and one or two guitars for some of my subscribers. If you are thinking of buying an instrument of any kind, I should be glad to send you one on trial. If interested, write me for descriptive circular and price list, saying what kind of an instrument you are thinking of getting.

W. Z. HUTCHINSON, Flint, Mich.

Please mention the Review.

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Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership, $1.00.

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The Pacific States Bee Journal

Is a publication you should read, especially if you keep bees in the Pacific States. $1.00 a year—sample copies free.

PACIFIC STATES BEE JOURNAL.

1-04-12t TULARE, CALIF.

Ho, Bee-Keepers Attention!

The Hyde Bee Company, Incorporated, capital stock $30,000, with the best strains to be had, and nearly 1500 colonies of bees, are again offering bees and queens for market. We are Texas' largest Apiarists, and for years have been breeding up our stock to the highest point of excellence. We make a specialty of Hyde's Imperial, Golden Italians and Hyde's Non-Swarming, Long-Tongue, 3-band, Italians. Untested queens, either race, until June 1, $1.00 each, or six for $5 00; twelve for $9.00. Select warranted 25c, and Tested queens 50c additional. Select, tested, $2 00, breeders, 3-band, $3.00; Golden, $5.00. Orders received until March 1 at 10 per cent. less than above prices. Circular free, postal gets it.

TEXAS BEE-KEEPERS.

We are headquarters for the best and cheapest honey cans, and solicit your trade. We are in the market for Comb and Extracted honey. Let us make an offer on your crop when ready. Don't forget to give us a show when you go to buy cans or sell honey. We are the largest honey dealers in the United States.

THE HYDE BEE COMPANY,

1-04-tf Floresville, Texas.

Successors to O. P. Hyde & Son.



THE PARKER PEN

has the "LUCKY CURVE"

The "lucky curve" is a curve in the feed-pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pi, e when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

When on my way to the Los Angeles convention, I saw Mr. France using a fine fountain pen that worked nicely, and I asked him what kind it was. He said it was a "Parker," made by the Parker Pen Co,, of Janesville, Wis. I tried it and was so enthusiastic in my praise, that Chas. Schneider pulled out his pen and asked me to try that. It seemed to work as well as the other and I said: "There must be other good pens as well as the Parker. It is strange that I have never been able to buy one." "Mine is a Parker, too," said Mr. Schneider.

As sooh as I reached home I sent for a Parker and have been carrying and using it ever since with the greatest of satisfaction.

There are styles of pens of different prices, from $1.50 up to $10.00, depending mostly upon the finish of the handle. My pen cost $2 00, and, so far as practical use is concerned, is the equal of any.

So pleased am I with this pen that I have made arrangements whereby I can send the Review one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,
Flint, Mich.

POULTRY NEWS.

Twenty-five cents yearly. Agents wanted. Bee department conducted by Fowler, the bee man of Ardsley, N. Y. Twenty pages, illustrated and up-to-date.

10-03-tf New Brunswick, New Jersey.

Winter Losses.

Are not always the result of the same cause. They may come from starvation; from poor food; from improper preparations; from imperfect protection; from a cold, wet, or possibly, a poorly ventilated cellar, etc., etc. Successful wintering comes from a proper combination of different conditions. For clear, concise, comprehensive conclusions upon these all-important points, consult

"Advanced Bee Culture."

Five of its thirty-two chapters treat as many different phases of the wintering problem.

Price of book, 50 cts.; the REVIEW one year and the book for $1.25. Stamps taken either U. S. or Can.

W. Z. HUTCHINSON, Flint, Mich.

Tennessee Queens



Daughters of Select Imported Italians. Select long-tongued (Moore's), and select, Straight 5-band Queens, bred 3½ miles apart, and mated to select drones. No bees owned within 2½ miles; none impure within 3, and but few within 5 miles. No disease. 30 years' experience. Warranted queens 60c each; tested, $1.25 each. Discount on large orders.

Contracts with dealers a specialty. Discount after July 1st. Send for circular.

JOHN M. DAVIS, Spring Hill, Tenn.

Wanted:—To sell an apiary of 100 colonies, fully equipped, in Hilton chaff hives; or a young man as partner, to take half interest in above; also an out-yard of 50 colonies. Location as good as Northern Michigan affords

CLINTON F. PULSIFER,
1-04-tf Nesson City, Mich.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

Is one of the leading illustrated monthlies of the world, and it is sent three years for one dollar in advance. Sample copy free.

Going to California?

If you had not thought of it, why not make plans **now** to go? If you **are** going, we have just a word for you about getting there.

There is only one road which takes you up in Chicago or Kansas City and puts you down in Los Angeles or San Francisco without the aid or consent of another. This one railway is the **Santa Fe.** It is the only line under one management between points named, which fact insures uniform and efficient service.

Upon request we will gladly mail you a book and a booklet. Use coupon below if you would like them. The book describes the trip to California by way of the old Santa Fe trail. The booklet tells of the California Limited on the Santa Fe Ry. Scenery finest in America. Train best in the world.

Daily service of the California Limited on the November 29 for eighth season. Other fast daily trains carry Pullman standard and tourist sleepers.

F. T. HENRY, Gen. Agt.,
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SEND ME CALIFORNIA BOOK AND LIMITED BOOKLET.

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I will give a year's subscription to either Review, Gleanings, or American Bee Journal, with an order for $10.00 worth of Bee Supplies; or six month's subscription with $5.00 worth of supplies. Cheapest place to get your supplies. Sections a specialty. Price list free. Honey and wax wanted. W. D. SOPER,
1-04-tf R. D. 3. Jackson, Mich.

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Big discounts for orders now.

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The Best and

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Vegetables and Flowers may be had by planting our Trees, Seeds and Bulbs. We make a specialty of improving and testing new fruits, vegetables and flowers. We have a full assortment of the best and most reliable old Standard Varieties. We grow and test the most promising ornamental plants, shrubs and trees and reccommend only the best varieties.

Special Seed Offer.

For 10c and 10 addresses of people who buy seeds, trees, bulbs, greenhouse plants, etc., we will send 10 packets of the earliest known varieties of cabbage, tomato, beet, raddish and lettuce. Two best varieties of each. ***Ten packets for 10c.***

We make a specialty of ***Northern Grown Seed Potatoes.***

Send us list of nursery stock, shrubery plants, seed potatoes, etc., needed and we will give you our lowest prices. We are always pleased to answer questions about fruits, flowers or vegetables. Send for our catalog.

T. C. FURNAS & CO.
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PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

A COOL MILLION

Of Snowy Wisconsin Sections, and 10,000 Bee Hives, ready for prompt shipment. Send for catalogue—it's free. R. H. SCHMIDT & Co.
Sheboygan, Wis.

Please mention the Review

One pound, square, flint glass,

HONEY JARS

with patent, air-tight stoppers, at $4.50 per gross Shipped from New York or from factory.
Send for catalogue to
J. H. M COCK, 70 Cortland St., N Y. City

Names of Bee-Keepers
TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona 46	Ky..... 182	N. C..... 60
Ark.... 130	Kans.. 350	New Mex. 56
Ala.. 80	La..... 38	Oregon.. 104
Calif... 378	Mo..... 500	Ohio... 1300
Colo... 228	Minn.. 334	Penn.... 912
Canada 1200	Mich... 1770	R. I..... 46
Conn.. 162	Mass... 275	S. C..... 40
Dak... 25	Md..... 94	Tenn.... 176
Del.... 18	Maine 270	Tex..... 270
Fla.... 100	Miss... 70	Utah..... 68
Ga..... 90	N. Y... 1700	Vt.....200
Ind.... 744	Neb.....345	Va..... 182
Ills.... 1375	N. J. .. 130	W. Va....172
Iowa.. 800	N. H. .. 158	Wash.....128
		Wis..... 625

W. Z. HUTCHINSON, Flint, Mich.

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular
J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

100 sheets of letter paper, 6 x 9 inches in size, of the heaviest, finest quality, with your name, business and address neatly printed at the top and the sheets put up in a neat pad, and

100 white-wove high-cut envelopes, of the best quality, with your name, address and business, printed on the upper left hand corner, will be sent by mail, prepaid, for only

$1.25, or the Review one year, and this batch of stationery for only $2.00. *W. Z. Hutchinson, Flint, Mich.*

If you knew that

OUR HIVE

is better in construction, with better material than any other, would you order of us? How can you know if you do not give us a trial order?

Six Per Cent. Discount

on all orders received before February 1, 1904.

Wood-Brush Bee-Hive & Box Co.

12-03-tf LANSING, MICH.

Bee-Keepers

It is a conceded fact that the bulk of the honey of the future is going to be produced in the irrigated portion of what is known as "Arid America." If you are interested in the progress of apiculture in this vast region, you should subscribe for the

Rocky Mountain Bee Journal,

a twenty-page monthly; price 50 cents per year.

This is now the only bee publication west of the Missouri river. We have several hundred eastern subscribers, and have still room for more. Write for free sample copy. Address

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The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

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POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates Prompt Service. Catalog sent free.

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Has an established reputation, because made by a process that produces the CLEANEST and PUREST, and in all respects the best and most desirable. Send for samples.

Working wax into foundation for cash

a specialty. BEESWAX ALWAYS WANTED at HIGHEST PRICES.

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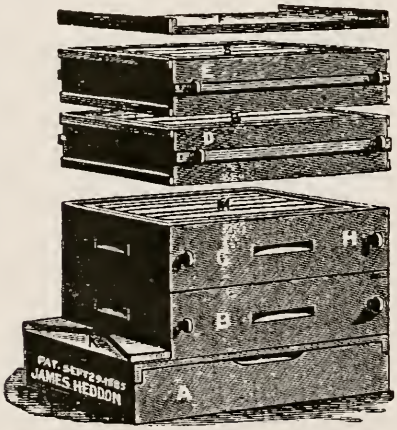
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GUS DITTMER,
Augusta, Wisconsin.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo.
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Listen! Take my advice and buy your bee supplies of August Weiss; he has tons and tons of the very finest



FOUNDAITON

ever made; and he sells it at prices that *defy competition!* Working wax into foundation a specialty. Wax wanted at 26 cents cash, or 28 cents in trade, delivered here. Millions of ***Sections***—polished on both sides. Satisfaction guaranteed on a full line of ***Supplies***. Send for catalogue and be your own judge. ***AUG. WEISS,*** Greenville, Wisconsin.

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired.*

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,

SPROUT BROOK, N. Y

Michigan Bee-Keepers, we are offering 2 per cent. off for cash orders during the month of February. We can save you freight and time on orders. Send us a list of the goods you need, and let us quote you prices. Jobbing agents for **The A. I. Root Co.** for Michigan.

M. H. HUNT & SON, Bell Branch, Mich.

FAMILIAR NAMES.

It will interest you to read what Mrs. N. E. France, *wife of Gen'l Mgr. N. B. K. A.* and Emil Nebel, *of the firm John Nebel & Son* say of

YELLOWZONES

My Friend Dr. House:—Enclosed find $1.00 for Y Z. Please send them *very soon*, and excuse us for sending so often. Although I do not take them all myself I can not very well get along many weeks without them, and the children miss them when they are feeling badly, as well as I. Yellowzones have been of great value to myself and family.

Very sincerely yours,
Mrs. N. E. France.

Platteville, Wis.

Dear Doctor:—Find enclosed remittance for two large boxes Yellowzones. Have been buying them of you for 7 or 8 years and they are as effective as ever.

Yours truly,
Emil F. Nebel.

High Hill, Mo.

People like the above do not send their dollars several times a year, year after year, for a worthless—or even an *ordinary* remedy. *You know that.*

YELLOWZONES

are a remedy *Absolutely Unequaled* for general household use. You need them in your own house and I guarantee your money back *and Another Box* if not satisfied.

If you keep but One Remedy in the House it should be YELLOWZONES.

$1.00 per box of 150 Tablets.

Trial size 25 cents.

W. B. House, De Tour, Mich.

Please mention the Review.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price $3 00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

WE PAY THE FREIGHT. THERE ARE FIVE CONDITIONS.

RIVER FALLS, Wis., October 16, 1903.

Freight charges cut quite a figure in the purchase of bee-hives and supplies. In view of the recent advances in prices, and as an inducement for early orders, we have decided to prepay freight to the amount of forty cents per 100 pounds on shipments requiring this amount for transportation. This will carry our goods as home prices as far south as Chicago Our rate to Hinkley, Minn., 39 cts.; Crookston, Minn., 60 cts.; Peoria, Ill., 40 cts.; St Louis, Mo., 42 cts. Omaha, Neb., 53 cts.; Kansas City, 64. Our rate to St. Paul and Minneapolis is 16 cts. per 100 lbs so a forty cent freight rate would carry our goods considerably beyond these points, in cases where they are obliged to pass through those points. We make some conditions, and we can not allow these freight allowances unless the customer complies with our conditions, which are: 1st. Cash must accompany the order. 2nd It must be an early order—not later than Feb. 1, 1904. 3rd. It must be at prices which we established Sept 1st, 1903. (We send them on application.) 4th. The amount of the order must be for not less than Twenty Dollars. 5th. A copy of this ad. must accompany the order. The usual cash discounts for early orders (5 per cent for November, 4 per cent for December and 3 per cent for Jannary) also apply. Send in your list of requirements for detailed estimates.

W. H. PUTNAM,
River Falls, Wis.

10-03 3t

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

One pound, square, flint glass,

HONEY JARS

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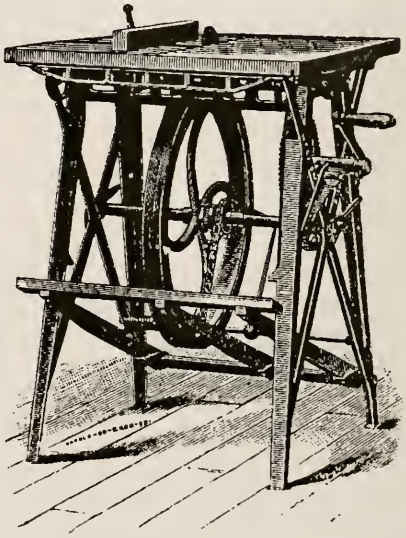
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VOL. XVII. FLINT, MICHIGAN, FEB. 10, 1904. NO. 2.

Management of Out-Apiaries for Extracted Honey.

BY E. D. TOWNSEND.

IN the production of honey for profit, it is essential to do all the necessary manipulations in season, and a good, practical system that does away with all unnecessary labor must be adopted. I can remember well when it cost me at least four times as much to produce a pound of honey as it does today; and I have reason to believe there are many bee-keepers working the old *intense* system, who are not getting the results they could by keeping more bees, scattering them over the country in yards of, say 100 colonies, or enough in a place to gather what honey the location will supply, adopting a system in which every turn brings in cash, stopping *fussing* with bees, adopting modern methods, and discarding the old, out-of-date implements, for the up-to-date, labor-saving kind.

TEN-FRAME, LANGSTROTH HIVES THE MOST DESIRABLE IN PRODUCING EXTRACTED HONEY.

After a long experience with several styles and sizes of hives, from an eight-frame Langstroth to a ten-frame Quinby, I have decided on the ten-frame Langstroth as the best style and size for my system and location. A colony in a small hive, like the eight-frame Langstroth, needs more care than a larger size. Such colonies are more likely to be short of honey in the fall, thus making more work to prepare them for winter. They are also more likely to get out of stores during the breeding season of April and May, and need spring care, (a procedure of which my system will not admit) with no corresponding gain in surplus; but the main reason for my preference is that the ten-frame size is much less liable to send out swarms than is the smaller size, and this is a most important point in the management of out-yards, where no one is present to hive swarms. Let me repeat: Whatever style of hive you adopt, do not make it of less capacity than 1400 square inches of comb-surface for the brood-nest. For the production of extracted honey in out-yards, I have been, for the past

15 years, trying fifty, ten-frame, Quinby, chaff-hives. On account of the poor wintering of colonies in such large hives, here in this cold climate, they have not done so well as the ten-frame Langstroth. They have one advantage, however, in that they rarely have to be fed. If I were located two or three hundred miles south of here, where bees winter better in chaff, perhaps the result would be different. Such a large hive is also better adapted to the location where there is a long, continuous flow of honey, than it is here where we have an early, short season.

PLENTY OF ROOM PREVENTS SWARMING.

The prevention of swarming in the production of extracted honey is not a very difficult matter; as the putting on of upper stories not only keeps down swarming, but secures the crop, all in one operation. It all hinges on the *one* essential, *large hives*. Of course I keep the entrance wide open during the warm season, and if the bees still show signs of being crowded, by hanging out during the heat of the day, I raise up the back end of the cover, and this gives such a draft through the hive that they will usually go in. Don't let your bees hang out during the honey season; after the season closes, and there is nothing for them to do, they will usually cluster on the outside of the hive in large quantities, if the weather still keeps warm, but, as the swarming season closes with the honey season, there will be no swarming. I told you above that large hives were essential in preventing swarming, or, in other words, plenty of comb-space must at all times be available for the bees to store their honey. This condition is secured with a ten-frame upper story, filled with eight combs of the Langstroth size.

HOW TO RUN AN APIARY WITH INEXPERIENCED HELP.

We will suppose it is now the fore part of June; the weather is getting hot, but the season is not open yet; some of the colonies are showing signs of becoming strong, and we do not want them to get the swarming-fever, and, as a prevention, we will put upper stories of combs on all such colonies. The rest of the colonies can go without upper stories until the season opens; when all that are strong enough to go above are given one upper story each. In this way, we visit each yard about once a week, seeing that every colony has *empty combs at all times*. As upper stories fill up, I add more on top. As we have no basswood here, 140 sets of empty combs, at each yard, will usually hold the clover crop. The having of enough upper stories full of combs to hold the crop, or nearly so, is one of the essentials in my system of producing honey. It not only gives me unlimited time to do my extracting, after the season closes, but does away with so much costly and experienced help—the kind that is so hard to get. I aim to have one experienced hand with two assistants, and do the work in a *longer time*, rather than use less combs and hire more experienced help to do the work during the honey season. Then, I like to leave the honey on the hives a week or so after the season closes, or until it is thoroughly ripe, before extracting. In case we have a heavy flow of honey, so that we need more room than is furnished by our 140 sets of combs, we extract from the heaviest; always selecting colonies that have on two upper stories, leaving the light ones, that have the unripe honey, for some future extracting. In this way we get our crop all in fine shape for the market, and secure the kind of honey that makes customers ask for more "Just like the last."

KEEPING CLOVER HONEY SEPARATE FROM BASSWOOD.

My Clinton County yard is located in a very fertile part of the County, and the farmers raise large quantities

of Alsike clover for seed. They have also been long-sighted enough, the most of them, to leave a good sized wood-lot, containing a good many basswood trees; so that, about every other year, I get a crop of basswood honey at that yard. Now, I have customers who will give a cent a pound more for clear clover honey than they will for that that has basswood mixed with it, so this yard is usually extracted just before the basswood opens, about the first of July, when the upper stories are put back for the basswood crop, and are treated the same as I have explained above, where we have only the one kind to handle. This clover honey, extracted during the honey flow, is never quite as good body and flavor as that left on the hive a week or two after the flow stops; but, as the politician would say, "I'm in the hands of my friends," so if they want it this way, and are willing to pay a difference in price for the clear clover, I, of course, keep it separate; as the difference in price more than pays for the extra extracting.

While on the subject of extracting during the honey flow let me give a little kink that I never saw in print. You know bees, during the night, evaporate nearly all the water out of the honey gathered the previous day, now, all the honey you can take off in the morning, before any new is stored, will be much better than it will be if left until later in the day, when the raw, thin honey will be mixed with it.

This is my system of working in an ordinary season; but there *are* seasons when honey is so thick and nice when first gathered that it is in condition to extract almost as soon as the bees store it in their combs; and then there are other seasons, like the last two, for instance, when the honey is *never* thoroughly ripened, no matter how long left on the hives. This last condition is hard to explain; in fact, I have never been able to wholly overcome this obstacle. In some future article, under the head of handling the crop, I will tell how it is *partly* overcome.

REMUS, Mich., Dec., 26, 1903.

Some Suggestions for Making Hives at Home.

BY M. P. CADY.

SHALL bee-keepers manufacture their own hives, or buy them at the greatly increased prices from the supply dealers? This seems to be the question agitating Beedom just now. Having had some experience in both methods of procedure, I am prompted to write this article, in the hope that it will, in some degree, contribute to the best interests of the bee-keeper.

To begin with, there are two general classes into which those engaged in bee-keeping may be roughly grouped:

First, those who make the business their *vocation*—in a word, specialists.

Second, those who keep a few colonies for any secondary consideration; *e. g.*, recreation, supply of honey for family use, to help piece out a small income, etc.

From the character of the articles published in the Review, I infer that its members are mainly of the specialist group, and so will only say in reference to the second group that, unless the bee-keeper chances to be a skilled mechanic, who has plenty of time to devote to the pleasurable task of making better hives than can be bought of any supply deal-

er, it will probably be far more satisfactory and cheaper, on the whole, for him to buy his supplies from some responsible supply-house. Too often, he does not know what he wants, and is guided in his selection by the opinion of others, and would not be able to exercise any competent supervision over the mechanic employed to do the work at home. As a result, his supplies will probably be a bungling botch.

For the specialist the case is different. Through costly experience, he has learned that success depends upon his own peculiar skill, good pasturage, and *plenty of bees*, rather than upon the complicated hives and super apparatus exploited by the supply-men, seemingly devised for the express purpose of cornering the market by the introduction of appliances so complicated that it is impossible for them to be constructed outside of a large factory, supplied with special machinery.

A BEE-KEEPER CAN GET HIVES MADE ACCURATELY IF HE WILL BOSS THE JOB.

Three years ago I began the manufacture of my hives, using only hand-work. I employed a good carpenter by the day, explained the details of construction to him fully, and then *bossed the job*. At first it was necessary to remind him, now and then, that a sixteenth of an inch made the difference between *right* and *wrong*, and that in hive-construction everything must be *right*. However, he soon learned just what I wanted, and has has since made 120, ten-frame, Langstroth hives for me, which are equal in workmanship and finish to those made by any supply dealer at any price — they are simply perfect in construction.

In the matter of cost, the saving has been considerable. Although I have, so far, bought the brood-frames from a supply dealer, which has increased the cost somewhat, the ten-frame hives, nailed up ready for painting have cost only about 85 cts. each, not including any surplus apparatus. So well am I pleased with results, that I expect to have 100, three-story hives made the present season, and estimate a saving of over $150 on the lot. My man has now a steam-power plant with a circular saw, and will cut the frames for about 50 cts. per hundred. As the brood-frame is the part of the hive requiring the greatest exactness, I should prefer to purchase them from a supply-house, rather than to take the risk of losing some lumber in the experimental stage of manufacture, but the sharp advance in prices has caused me to decide to have them made as before stated. I am confident that the cost of plain Langstroth frames, with top-bar ⅞ inch square, will not exceed $1.00 per hundred. As this will make a saving of $27, besides the freight, on the frames alone, I feel that I can well afford to take the risk.

As to a buzz saw for my own use, I think too much of my fingers to ever run the risk of losing them in playing with the uncertain thing, and would advise any bee-keeper who may be thinking of buying one, to take an inventory of his fingers at their cash value, and see if he can afford to lose two or three of them, before deciding to risk them in the vicinity of a buzz saw. The famous advice, "Don't monkey with the buzz saw," is well worth considering in this instance.

HIVES MAY BE MADE AT HOME IF COMPLICATED FIXINGS ARE AVOIDED.

It seems to me that the plan I have outlined is one that is worth the consideration of the practical bee-keeper. True, we have been told that the average carpenter cannot make hives that are accurate. Try it. The experiment costs but little to try. The greatest drawback to success is the complicated hives, and, especially, the abominable Hoffman frames, which have been so widely distributed through the country for the last few years,

that every bee-keeper is likely to have some of them in his stock. These cannot be made in the way suggested in this article. The bee-keeper deciding to use other than plain, simple apparatus must ever be at the mercy of the manufacturer.

As remarked at the outset, these suggestions are intended for the consideration of the specialist, the man who is thoroughly alive to his own business interests. One caution is essential: Do not try to do this work unless you know *what* you want, *how* you want it, and *why* you want it; especially if you employ a man to do the work for you. The employer must be master of the situation. He must know about the kind of lumber he wishes to use, how he can use an ordinary grade successfully, by putting each piece where it will do the best service—in a word, he must understand his business.

There are many localities, remote from a good lumber-supply, where it will also be impracticable for the local manufacture of hives, but throughout the great middle West, the plan is entirely feasible, and its adoption will save thousands of dollars to the practical honey producers of these States.

BIRNAMWOOD, Wis., Jan. 18, 1904.

Excellent Advice to Makers of Home-Made Hives.

BY ADRIAN GETAZ.

THE recent editorials on the hive-making subject have struck a tender chord in my heart, or rather in my brain. If there is a man, or a crank, especially inclined to "monkey" with all sorts of wood-work, blacksmithing, tin-work, etc., I am the one.

GETTING THE EDITOR IN A CORNER.

Dear "W. Z.," please don't get mad if I poke a little bit of fun at you. Here you have been preaching all this time, that every bee-keeper ought to attend to his business *exclusively*, keep more bees, specialize, etc., and here you are, bee-keeper, editor, publisher, job printer, photographer, contributor to several magazines, foul-brood inspector, and I don't know how many more things, yet you tell us to make our own hives and appliances ourselves, and then declare that you have come to the conclusion that it does not pay to make what you can buy or hire done. How are you going to fix that up?

And yet, after all, the contradiction is only apparent. What one does must be well and thoroughly done, otherwise it will surely end in financial loss and vexation of spirit. But if the work is such as can be well carried out, without occupying all your time, there is no reason why something else could not be also undertaken. If a man can make $5.00 per day, photographing, or writing for the Country Gentleman, he has no business to waste a day making a hive that he could buy for $1.50. But the majority of bee-keepers are not in a situation to make $5.00 a day, any and every day in the year, by any means.

REPAIRING THINGS AT HOME.

A large number of the Review readers are farmers as well as bee-keepers; I have always claimed, and do claim yet, that every farmer should have the necessary tools and appliances to do all his blacksmithing, also for repairing and mending his harness. If some-

thing breaks down, the farmer who depends on the blacksmith, will have to take his horse and wagon and go to the shop, perhaps three or four miles away, wait until his turn comes, perhaps spending a whole day, or half a day, to get a piece of repairing done, that he could have made himself in half an hour had he had the tools and known how to use them; not speaking of the money spent. And there are the rainy and winter days, during which everything that is shaky can be fixed without waiting for an actual breakdown, which always takes place at the most important time.

What is made for sale must be well finished, but what is made for home-use does not need so much work spent upon the finish; in fact, the time spent in giving the work a fine appearance is just that much loss. But the working parts must work satisfactorily. You won't put up with a set-screw that won't stay *set*, as did a friend of mine some years ago.

Perhaps the best illustration of that principle that I ever met was at a saw mill across which I came during a trip through the country. Through some defect, the pitman had broken, the next town was forty or fifty miles away, and the work pressing. A piece of dry, rough hickory had been selected, and a pitman made out of it. The parts fitting in the collars at both ends were as accurately made as could be desired; but the rest of the piece was just as the hatchet had left it, including a few specks of bark.

SOME EXCELLENT HINTS TO THOSE WHO MAKE THEIR OWN HIVES.

There is nothing hard in that, in spite of all the manufacturers tell us. Before ordering a large amount of lumber, try one or two hives at first. Then when you know exactly what you want, place your order. It is far easier to make a mistake in the sizes wanted than you have any idea until you try. The pieces for the hives, supers, etc., should be ordered ready to make. If a box factory is available, order there in preference. Their men are used to accurate cutting. The planing mills and door and sash factories depend on the finishing machines to give their work the final shape and size, hence they are in the habit of cutting the lumber only approximately. An error of ¼ of an inch or more entitles you to refuse the work.

A slight variation in the width and depth of the hives is immaterial, provided, of course, that the frames do not come too close to the bottom of the hive. The important point is the inside length from front to back. This must be accurate, or the frames will not fit. The two end-pieces should come between the sides, and, if necessary, placed a little in or out to secure exact length. The supers are constructed in a similar way.

MAKING FRAMES BY HAND.

The lumber for the frames should be bought in long strips; simply ripped out of some boards. This is much cheaper, and just as good. Strips dressed on four sides cost not less than a cent per lineal foot; often more. They should be cut of proper lengths, by hand, to secure the exact lengths, and, also, to save the cost. Cutting small pieces by machinery, in a shop, costs too much. It is charged at the rate of 50 to 60 cents an hour, and takes as much time as if done by hand.

Provide a mitre-box; fix it at the end of a bench; adjust a stop at the the proper distance; take a few strips at a time; put them in the mitre-box; push them till they reach the stop; saw, push them again; saw again, and so on. In less than an hour, you will cut enough pieces for a hundred frames, or more.

The top and bottom pieces, cut square, should come between the end-pieces. It is necessary to make the frames of exact size; that is, so far as the inside dimensions are concerned.

They should be hung by nails as described in a former issue of the Review. But the nails there mentioned are too small; 8-penny finishing should be used. A large nail is apt to split the wood if no precaution is used. All that is necessary is to clamp the pieces is a hand vice. The pressure will prevent the splitting of the pieces while being nailed. The nails rest on the tin rabbets. Or, instead of a tin rabbet, a strip of tin nailed to the inside of the hive. It is best to cut a slight notch at each place where the nails are to rest. This will secure well-spaced distances, hold the frames in place, and yet permit the apiarist to push them apart when he desires to do so. In fact, it secures the advantages of both loose and fixed frames. When the idea of cutting these notches occurred to me, I thought myself quite an inventor, but soon found out that others had preceded me.

WIRING.

The wires should be close enough together to prevent any serious buckling or stretching. Not less than two inches apart, anyway. There is no need of fastening the foundation to the top bar. All that is necessary is to place the top wire near the top-bar, say ¼ of an inch, or even less. I have a machine of my invention with which I can wire my frames very rapidly, but it could not be described without figures.

A French paper states that buckling of foundation is due to the fact that the foundation is put in at a comparatively low temperature, and that the buckling is the result of the expansion of the wax due to the high temperature of the hive. He claims that when the wiring is done in a very warm room, with the wax nearly fully expanded, there will be no subsequent buckling. I have not tried that plan yet, but will do so at the first opportunity.

Nearly all bee-keepers have but little to do in winter time. When nothing else can be done, profitably, everything saved by making hives or other necessary appliances is that much clear gain. And there is something else; there is the pleasure and interest you take in planning and experimenting. Don't think you will succeed at once. Every time you undertake something new, woodwork, blacksmith work, tin work (especially the latter), you will make mistakes. You have to learn, just as everybody else does. But don't be discouraged. Try again, and again, and again. The greater the difficulties the greater will be the satisfaction when at last success comes. Carefulness and perseverance will make up what you may lack in natural gifts. Until you have experienced it, you have no idea of the intense satisfaction, the pleasure, the triumph that will come to you, when, after vanquishing numerous difficulties, you finally succeed. And there is profit, also. I made my own extractor. The materials cost only a little more than a dollar, and yet the instrument is as large and as good as those sold for $12.00 or $13.00.

KNOXVILLE, Tenn., Jan. 18, 1904.

[When a man puts up an argument against me, when he "puts me in a hole," or it *looks* as though he had, then I delight in publishing what he says. It is a pleasure to answer argument with argument, or else "own up." I have a great number of excellent articles on hive-making, but the way in which the foregoing starts out is *one* reason why I made a place for it. I am just as much a believer in specialty as I ever was, but I never believed, nor argued, that a man should never so much as lay his hand to more than one thing. A man should take some one business, and make that his *leading* business, but there may be several other minor side-lines that are tributary. Suppose a man's main business is that of producing

apples, he might profitably keep a few colonies of bees for their value in fertilizing the blossoms; and he might also find it to an advantage to keep a few hogs to pick up the windfalls. I once attended a National convention of photographers, and one of the "demonstrators" illustrated and explained how to make large wooden trays, and line them with enameled cloth, or rubber cloth, for use in toning large photographs. This was one of the first things he had learned when he was apprenticed to a photographer down in Indiana. When set to do this work, as an apprentice, he objected. He did not come to learn how to make *trays*, but to make *photographs*. "Part of the business;" "part of the business;" said the old photographer, and the boy had to submit, much to his future benefit. I sometimes think, with the old photographer, that hive-making is "part of the business."

It is true that I have been all that Bro. Getaz says I have, and some things he has left out; in fact, it has been one of my besetting sins, to wish to dabble in many things; and, of late years, I have found it necessary to fight against it with *all of my might*. First and foremost, for 16 years, I have been editor of the Review. Other things have claimed my attention, but they have all led to one thing—the Review. Many is the thing, too, that I have dropped in those 16 years. I tried making a garden—it was cheaper to buy my vegetables of the man who raised them by the acre. I tried keeping poultry. I had to keep the fowls confined, and buy everything they ate, and it cost more than it came to. I kept bees, and went to fairs, and found it profitable. The money so obtained was needed to keep the Review going while it was in its infancy. It has grown until it is more profitable to spend my time on the Review rather than with bees or going to fairs, and both have been dropped. I have also lately dropped the queen trade for similar reasons. When I accepted the office of State Inspector of Apiaries, the salary was not so attractive to me as the prospects for experience that would make the Review more valuable. Don't you see that all of these things led to *one thing*—the making of the Review? Photography is my one plaything. To be sure, it has helped, and helped wonderfully, in the success of the Review, but it can be laid aside or taken up at pleasure, and is followed mainly for the enjoyment that I get out of it. Oh yes, and there is the job printing. To be sure, I still advertise to do such work, but it is not done with my own hands. It is turned over to the firm of which my son-in-law is a member. Of course, I hold myself responsible for any work I accept, and have my say as to how it shall be done. but I do none of the actual work. Mr. Hartshorn has worked with me so long, that he knows just about what I would do with a certain job. You will notice that when I had some hives made, I did not do the work myself, because there was other work at which I could make more money than I would have to pay the man who did the hive-making. When I come home from one of the large conventions, and have some 200, 8x10 group pictures to make, I don't do the work myself, but turn it over to some one of our local photographers who, with his special arrangements, can do the work cheaper than I can, with all of the other work on my hands. As I wrote some time ago, I have found that it does not pay *me* to do much work that I can hire done. In other words, the work that I *can't* hire done has accumulated to such an extent that it pays me to hire everything done that I can. But, as Bro. Getaz well says, many bee-keepers are not situated as I am. They have leisure on their hands during the winter-months, and it is then that it pays them to use their leisure in hive-mak-

ing. I have seen the time when it paid me, and paid me well.

Editor of the Review, and Inspector of Apiaries, are about all of the titles that can now be laid at my door. How long I shall retain the latter is somewhat doubtful. As long as I do retain it, I shall do my duty to the best of my ability, but as the Review grows and grows, and claims more and more of my time, it is likely that the time will eventually come when I will find it best to turn over the Inspectorship to some other man. First and foremost, I am editor of the Review, and I allow nothing to come between me and that work.

While I would not advise a farmer to get tools and learn how to shoe his horses, nor to make their harness, I agree with friend Getaz that it is well to be able to mend a strap, or weld a link in a broken chain, instead of making a trip to town while everything else waits. The advice to make a few hives at first, to "see how it goes," is also excellent.—Ed. Review.]

Some Pertinent Advice from the Planing Mill Man.

BY W. W. CRIMS.

I HAVE had about 17 years of experience in running planing mill machinery, and overseeing the work around such mills, and I will say to the man wanting good hives, don't dump an order for 100 hives on the planing mill man, with a sample hive, expecting him to take measures, and count pieces, and get out good hives. Do not have hives cut out at a planing mill unless you *know* that the man who is to do the work is competent; and then you better stay right with him yourself.

HAVE A SAMPLE HIVE, MAKE OUT AN ACCURATE LIST OF PIECES WANTED, THEN STAY BY AND SEE THEM CUT OUT.

First, send to the hive factory and get a sample of the hive you want made; or make it by hand yourself. If you cannot make one by hand, you will never succeed with 100 by machinery; and you *must know* that it is right—*every piece*. Decide the number of hives you want made, put down on paper the number and size of all the pieces, then go to the mill and see that each piece is cut exact length, thickness and width; each rabbet cut proper width and depth. Never make a hive, or any other box for out doors, with only a plain square joint; it cannot be nailed up strong enough.

MANY WORKMEN ARE "SLACK" AND CARELESS.

Do not say "that is near enough." *Exact* is what you want. I do not care to brag on my work; I am not making hives to sell; but do not believe there can be found a miss of 1-16 of an inch in all the pieces I have gotten out for 500 hive bodies, 1,000 supers, 5,000 frames, bottoms and covers. Any mechanic can do the same with experience, the right kind of machinery, and an effort to do his work right. I could not trust a man I had in the mill to do this work, and I had some that had been in the business longer than I had, but they had never taken any more interest in the work than just to *swap ten hours of time for $1.50*. They moved the lumber from one mill to the other, and I did the cutting and sizing.

The reason there are so many bad hives made at planing mills, is that the planing mill man is but little interested in this kind of work, and loses but little or nothing if it is not properly done, while he is almost always short of time to do the work justice.

WIND-POWER, FOOT-POWER, OR HORSE-POWER LACKING IN STRENGTH AND STEADINESS.

As to the foot-power, hand-power, wind- and horse-power hive machines. I would just as soon try to look happy (for Hutchinson to take a picture) sitting on a hive of Cyprian bees, with a mule just ready to get in his work (with his head the other way) as to have a job of hive-making on any of these machines, and try to enjoy it. It takes a strong, steady power, with the saw running at the proper, unvarying speed, to do good, even, smooth work. Then the stuff must be fed to the saw just right.

PEKIN, Ind., Jan. 25, 1904.

Editorial

TORONTO is the place where the Canadians will hold their next annual convention.

PROTECT your home market by not retailing honey for less than your dealer sells it.

MR. FRANCE writes me that the prices that he gave on tin honey packages, in the annual report of the National Association, have been withdrawn.

THE NORTHERN MICHIGAN Bee-Keepers' Association will hold its annual convention March 30th and 31st., at the Montague Hall, 127 Front St., Traverse City, Mich. A. I. Root and the editor of the Review are expected to be present.

MR. W. F. MARKS, of Chapinville, N. Y., has been re-elected, for the seventh time, as President of the New York, State Association of Bee-Keepers' Societies. He has also been re-elected as chairman of the Board of Directors of the National Bee-Keepers' Association. Every Director, with one exception, sent in his vote, and the only vote not for Mr. Marks, was that of his own.

SELF-RELIANCE, thinking for one's self, are things that the Review has repeatedly urged upon its readers, but Printer's Ink, in a recent issue, puts the matter so neatly that I feel that I must copy it. It says:

"THE advice of friends is a good thing to listen to in matters of business, but it is a very sorry prop for one's support. 'Each man builds his own house and lives in it.' Success comes of self-reliance. No two friends will advise precisely alike as touching any one thing. He succeeds best who with ax in hand cuts his own way."

R. F. HOLTERMANN, of Brantford, Canada, has written quite a little for the press, but, of all the things he has ever written, I never felt like saying amen so heartily as I do to the following that he wrote in an article for the Canadian Bee Journal. Among other things, he says:

"A good deal of nonsense passes as sound reasoning, and I often think how rare a thing it is to find a man or a woman who will stick to sound, solid reasoning, and who will, in a *reasonable* way, stick to the point at

issue until they are either victors or vanquished."

Good for you Holtermann. We may not agree on all things, but we do on the foregoing.

ONE THOUSAND COLONIES in one apiary is what Mr. E. W. Alexander, of Delanson, N. Y., proposes to try the coming season. For a series of years he has been getting good results from a large number of colonies in a single apiary. Last year he had 700 colonies in one yard, and secured from 100 to 150 pounds of extracted, buckwheat honey per colony. He admits that his locality may be exceptional, and every bee-keeper with whom I have talked feels sure that it is. The outcome of this experiment will be watched with great interest.

SUGAR, by the hundreds of barrels, has been fed at a profit to the bees in the spring by Mr. E. W. Alexander, of Delanson, N. Y. Under the back end of each hive he has a feeder, made like the Simplicity feeder from a piece of plank. One end projects a few inches beyond the side of the hive, and is covered with a piece of block. To feed, the block is removed, the feed poured into the feeder, and the block replaced. A little feeding during a temporary break in the honey flow will not only prevent the destruction of brood that would otherwise occur, but avoid any slacking up in brood rearing. As a result, the colonies come up to the harvest with combs full of brood instead of emptiness.

INSURANCE is something that every man should keep upon his property and his life. The mere pittance paid each year is no more than one would give to a man who had suffered a loss by fire, or to a widow and her family in need. It is much easier to spare these few dollars each year, than to bear up, unaided, under the loss of many years of toil—swept away in a few short minutes. Every little while there comes to me a letter, or I see the account in the journals, telling of the loss by fire of some bee-keeper's home or honey-house, with "no insurance." To leave buildings uninsured, or to neglect to insure one's life when there is a dependent family, seems to me little less than criminal carelessness.

One thing more, take all possible precaution to prevent fires, and make all possible arrangement to extinguish them when they first start. Be sure that all stove pipes, flues and chimneys are *absolutely safe*. So often do we see a fire attributed to a defective chimney. Keep matches in a safe place. Store ashes so far from the house that there will be no danger. Have handy a ladder that will reach to the top of your home. See that there is an abundant water-supply, and plenty of pails—and a Whitman fountain pump would be a good thing to have. Yes, and a fire extinsuisher of the Babcock type would be excellent. It has a strap by means of which it may be carried over the shoulder, and a simple turn of a handle mixes the chemicals, generating a gas that creates a pressure that will throw the two pails of water and gas with great force, while the little hose and nozzle enables the operator to direct the stream where it will do the most good. Mr. H. R. Boardman keeps one of these standing on a shelf in his dining room all ready for instant use. To be of any use, these things must be all in readiness when the fire breaks out.

THE INTERNATIONAL BEE AND HONEY INSPECTORS' ASSOCIATION.

At the late meeting of the New York State Bee-Keepers' Association, held in Syracuse, there were present six inspectors of apiaries, the four from New York, and the inspectors from Wisconsin and Michigan, and they

met in the parlor of the Empire hotel and formed themselves into an association with the name that stands at the head of this article. There are many things upon which it would be desirable to meet and compare notes. There should be uniformity regarding description, definition, methods, etc. By meeting and comparing samples of diseased brood, each member can learn exactly what the other members regard as this or that disease. For instance, I have never seen black brood, but if I can see specimens, but recently from the hives, and have the peculiarities pointed out by an expert, I will then be able to detect the disease should I find it in my own State. Arrangements have been made to meet at Buffalo early in June, when it is expected that Mr. Mc Evoy, of Ontario, can be present. If there are any other inspectors who can be present, they will be more than welcome. Mr. N. E. France was elected President, and Charles Stewart, of Sammonsville, N. Y. was made Secretary.

WHICH IS THE MORE PROFITABLE TO PRODUCE, COMB, OR EXTRACTED HONEY?

A subscriber writes me as follows:—"With your present knowledge of bee-keeping, if you were to start anew in the production of honey, which would you produce, comb or extracted honey?"

This is largely a question of locality. Where the main honey-flow is short, as it is from basswood, there is not time for the bees to build comb in the sections, fill them, and cap them over, before the harvest is over and past. This is the case in many parts of Wisconsin. Where the honey must be shipped a long distance to market, as is the case in Cuba or California, one very important reason for producing extracted honey is that there is so much less danger of damage in shipment. Dark honey is also much more salable in the extracted form. Where the flow is light but constant, and of long duration, as in Colorado, and the honey is white, comb honey has its advantages, as honey is worth more when stored in sections than when taken in the extracted form. The time was when producing honey in the extracted form gave greater opportunities for controlling swarming, but the introduction of shook-swarming has robbed the extracted method of that advantage. Comb honey production allows most of the work to be done in-doors, in a leisurely manner—extracted honey production calls for hustle out in the hot sun. Which kind of honey I should produce would depend upon the locality, as I explained at the outset.

The present high prices of sections and foundation will have a tendency to drive bee-keepers into the production of extracted honey, as I learn by my correspondence.

MICHIGAN STATE BEE-KEEPERS' CONVENTION.

Michigan bee-keepers will hold their annual convention, Feb. 25th and 26th, in the chapel at the Agricultural College, near Lansing. The State Dairymen will hold their annual convention at the same place Feb. 23rd, 24th and 25th, their last session ending at noon on the 25th, and the bee-keepers holding their first session on the afternoon of the same day. The Farmers' Institutes will hold their "round-up" Institute at the Agricultural College from Feb. 23rd to 25th, inclusive, and on Friday afternoon the bee-keepers will meet with them in joint session, when the Hon. C. B. Collingwood will give a talk on "Farm-Law," in which he will include the "Rights of Bees." Prof. Hedrick, of the College will give a talk on "Bees and their Relation to Fruit-Growing," considering their

value in cross-fertilizing the flowers, and the injury they may do in conveying destructive diseases and insects, such as the San Jose scale, as well as the damage done by bees to fruits, etc. This will be something along the same line as the talk given by Prof. Waite at Buffalo, in 1901. Ernest Root has promised to be with us, and, taking it all in all, it promises to be a most interesting meeting.

On account of the "round-up" Institute, half-fare will be given on all Michigan railroads. Dinner and supper may be secured at the College, but visitors will have to go to Lansing for their lodging and breakfast. The distance, however, is only four miles, and the fare only five cents. Headquarters for bee-keepers at Lansing will be at the Wentworth hotel, where excellent fare may be secured at $1.50 a day.

HOW TO TELL, WITHOUT OPENING THE HIVE, WHEN A COLONY WILL SWARM.

One improvement nearly always leads to, or calls for, another. The establishment of out-apiaries called for some method of controlling swarming. Shook-swarming has come in response to this demand. If we knew that a colony would not swarm, we would not shake it. We do not wish to shake a colony until it has made preparations for swarming—that is the time, the most desirable time, for shaking. Consequently the first step, upon reaching an apiary managed on the shook-swarming plan, is to examine each colony and see which ones have made preparations for swarming. This is considerable work; supers must be lifted off, brood combs lifted out and examined to see if queen cells have been started, then the supers lifted back. To thus pull a colony all to pieces, and interrupt and disturb the bees right when the work is at its height, is something that any bee-keeper would gladly avoid. Mr. M. A. Gill, of Colorado, who, last year, with the assistance of his wife and one helper, managed 1,100 colonies, systemized this part of their work. I believe Mr. Gill went ahead and lifted off the supers, his wife followed and examined for queen cells, while the other helper did the "shaking" at the hives that were so marked. Then I think Mr. Gill lifted the supers back upon the hives. Suppose that Mr. Gill could have stepped into an apiary of 100 colonies, and, in twenty minutes, or *less*, with no assistance from any one, without even *opening a hive, or lifting off a super*, he could have known which colonies were making preparations for swarming, I say suppose it would have been possible for him to do this, see how greatly it would have lessened his labor. Well, this very thing *can be done*.

During my recent trip to New York, I met a bee-keeper who has been practicing this, successfully, for some time, on a large scale. He described the method to me in detail, and the simplicity of it is only equaled by the wonder that no one has thought of, or practiced it, before. He told it to me in confidence, and when I urged him to allow its publication, he declined. He said he had put much thought and experimentation upon the matter, and as an *idea* is not patentable, he preferred to enjoy its advantages himself rather than *give* it away to those who would become his competitors. After thinking the matter over awhile, I proposed that I mention the matter in the Review, and find out how many men would be willing to pay $1.00 each to have the matter published in the Review. Now then, let each man who is willing to pay $1.00 to have this matter published, drop me a postal card. The first of March I will write this man and let him know how many have made this promise, and, if he feels that the number is sufficient,

he will allow its publication, send me a hive all properly arranged, and I will have drawings made and let the description and illustrations appear in the April Review.

If you are willing to pay $1.00 to have this matter published, don't wait and say: "Oh, there will be enough others who will attend to this." If they all take this view, the matter won't be published. You will not be asked to send your dollar, unless there are enough other dollars promised so that my New York friend feels the number will be sufficient recompense to justify him in giving to the world this product of his brain.

I shall head the list myself with $5.00, and if others feel like giving more than $1.00 each, well and good, for I am exceedingly anxious that this method should be given to the world, as it will be readily seen what a vast advantage it will be to be able to step into a large apiary and decide, almost at a glance, with no lifting of supers, exactly which colonies are making preparations for swarming.

HOME-MADE, VERSUS FACTORY-MADE HIVES.

There is no subject that the Review has ever taken up that has brought such a flood of correspondence, letters and articles, as has that of making hives at home. Some of these articles are most excellent, helpful and reasonable, while others are full of sarcasm, even of abuse. I have given a few of the best in this issue. They are samples of many others that I have received, but I doubt the wisdom of publishing any more of them, or of continuing this discussion, unless some one has been wronged, or misrepresented, or misunderstood. For example, Ernest Root has sent me proof of an article that he expects to print in the next issue of Gleanings, and he explains in that that he had in mind a story and a half hive, an eight-frame hive with a *super*, when he gave the price as $1.25 each, by the 100, and the estimate of the amount of lumber as 20 feet—counting waste. He says that such a hive as I described, only it will be one inch wider, with dovetailed corners, tin rabbets, and division-board, can be furnished by the factory, in 100-lots, at 87 cents each, and the lumber will be practically clear. It gives me pleasure to publish this, as I wish to be entirely fair to all concerned. Mr. Root says, still further, that, in this comparison, in order to be fair, we ought to figure on exactly the same equipment, viz., clear lumber, dovetailed corners, Hoffman frames, peaked roof covers, tin rabbets, a division-board, etc., and then he goes on still further, and says that the factory ought to be able to furnish these things cheaper than the man can make them at home, as the factory can buy lumber in 100-car lots at greatly reduced prices. I admit the force of all this, but I expressly said that I looked at these extras as useless expenses, that I would rather have hives without them, that a bee-keeper could make his own hives more cheaply than he could buy them, *if* he would only get rid of the idea that these "fixings" were necessary.

Mr. Root, in his reply to my article, speaks of the 37½ cent hives that I had made, as made of "knotty lumber, some of the knots loose, and the knot holes covered with pieces of tin, the boards probably roughly sawn, and probably not at all accurate." Beg pardon, Bro. Root, but none of these were true of the hives that I had made. There were knots in the boards, but they were sound, the lumber nicely planed, and accurately and smoothly sawed. All that I said on this subject was that knotty lumber *could* be used, and that loose knots could be managed in some parts of the hive.

But as I have already said, I doubt the wisdom of using more space in

arguing this question. Both sides of the question have been very fairly presented. The manufacturers admit that there are instances in which it is advisable for bee-keepers to make their own hives, and there is no question that there are instances in which it is more advisable to buy them of the manufacturer, and the only way is for each man to investigate and experiment, until he finds out which is the better way for him.

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A PROTEST FROM A SUPPLY DEALER.

I am getting a vast amount of letters and articles on this subject of home-made hives versus the factory-made, and, while I can't find room for one-fourth of the matter, I do wish to give, if possible, the views of those who differ from me. It is a pleasure to publish a man's views when they differ from mine, and, when they are so pleasantly expressed as the following, the pleasure is doubled.

INDIANAPOLIS, Ind., Jan. 13, 1904.

Friend W. Z.:—I want to take up a few moments of your valuable time while I do some scolding. I have no doubt but what you are getting scolded by others and that you know just what is coming now. I refer to your opinions expressed about the bee-keepers making their hives and fixtures. I have been a great admirer of the Review and one of the most admirable things about it has been that you have always taught the art of order and neatness in the bee yard and the honey house. Now, you have just gone and upset everything. I have no doubt but what you will have many followers, but I can not see, for the life of me, how you can, conscientiously, give the advice that you have given. Is it not an absolute fact, that to go to a planing mill and have a few hives made to order from good lumber, the cost would exceed the price of the goods made in some up-to-date factory? I fear that I am entitled to no voice in this matter because I am a dealer. If I were not a dealer my voice would remain the same. You certainly have traveled and visited enough to be thoroughly posted on these points. I have been over the ground, too. I have had bitter experience with special goods ordered at planing mills and box factories, goods made by men who never heard tell of a bee-space. If all the bee-keepers of our land would decide to follow the advice given in the Review, what a slipshod state of affairs the bee business would drift into! Bee-keepers would pay more for their goods than they do now, and what a mix-up! The supply dealer, the very ones who support the Review, would be compelled to seek other employment.

Yours.

WALTER S. POUDER.

I have had the pleasure of competing at fairs with Bro. Pouder, of corresponding with him, and of doing business with him ever since the Review started. No man pays his bills quite so promptly as does Mr. Pouder. He has a warm place in my heart, and it is indeed a pleasure to make room for his letter, even if he *is* a supply dealer, as he puts it.

One other correspondent, whose communication I am unable to use in this issue, takes the same ground as does Mr. Pouder, viz., that the making of hives at home would lead to, and go hand in hand with, slip-shod, slovenly methods. It is true that some of the apiaries with home-made hives have been of the ram-shackle style, but truth compels me to say that some of those furnished with factory-made hives also belonged in the same category, while some of the neatest, yes the very *neatest*, apiaries and hives that I ever beheld, were those where the hives had been made at home. Candidly, I think that this matter of where the hives are made has very little bearing on this point. If a man is neat, orderly, methodical and accurate, his apiary will show it, regardless of where his hives are made.

Mr. Pouder asks if it is not an absolute fact that it will cost more to go to a planing mill and have a few hives made than it would to buy them at factory prices. It is possible that it

would in some instances. If a man must drive a long ways, feed himself and team at the hotel, buy paint and brushes, etc., all to get half a dozen hives, he might better buy them already made, but I think I am safe in saying that I have received more than 100 letters from men who have had hives cut out at a planing mill, and then nailed up and painted the hives themselves, who had saved money, and felt well-satisfied with their venture. I recall one just now, from a man liv- at St. Louis, this State, who had 2,000 feet of lumber planed and cut up at a mill, he working at the mill himself while the lumber was being worked up into hives. He spent five days of time, and his bill at the mill was $15.00. He said that the freight on that number of hives would have amounted to $15.00. According to his estimate, he had saved $50.00 over what it would have cost him to have bought hives at the factory.

It is true, Bro. Pouder, that the supply-dealers have helped to support the Review, and still help to support it, and to say that such help is not appreciated would be untrue. On the other hand, advertisements in the Review, and in other journals, have brought trade to the supply dealers, hence it is pretty nearly a case of one hand washing the other. All of the manufacturers and dealers are good friends of mine, and we certainly wish one another success, but I doubt if there is a manufacturer or dealer who would wish me to urge bee-keepers to patronize them unless it was to the advantage of the bee-keepers to do so. After all has been said, there will still be a large volume of busines go to the factory.

THE NEW BEE-KEEPING.

(Read at Wisconsin State Convention.)

Comrades—let us take one quick, backward glance at bee-keeping. Bees once lived in hollow trees, clefts in rocks, and holes in the ground. Then man began putting them into straw "skeps," log "gums," and boxes. After toiling through the long summer to lay up a store of sweets, the cold days of Autumn saw the bees consigned to the sulphur pit, while their combs of honey were mashed up and hung in a muslin bag before the fire to drip. "Strained" honey was a result —and sometimes there was a decided flavor of bee-bread and brimstone. The interior of a bee hive was a sealed book until about 50 years ago—when Langstroth broke the seal, and allowed man to scan the wonderful pages. This was the first, the revolutionary step of modern bee culture—the foundation of all subsequent improvements.

Aside from the invention of the movable comb hive, many of us have witnessed *all* of the wonderful growth that has made modern bee culture what it now is. Comb foundation, the honey extractor, the bee smoker, the section honey box, the wax extractor—all these have sprung up before our very eyes. Men were not slow in profiting by these inventions, and apiaries and bee-keepers sprang up as by magic, all over this fair land. With few exceptions, however, one man did not attempt the management of more than one apiary—swarming was the one stumbling block in the way of success upon a broad scale, by which one man might manage several apiaries scattered about in the most desirable locations. "Shook-swarming" has removed this last obstacle to successful bee-keeping upon a large scale, and with possibilities of which we have never dreamed. Examples of success in this line are not wanting. Look, for instance, at Bro. Gill, of Colorado, who, last year, with his wife and one helper, cared for 1,100 colonies and secured 75,000 pounds of comb honey. Perhaps you will say: "Oh, but that is in Colorado!" Look at your own State. See what your

worthy President has done. With only 400 colonies, he last year secured 54,000 pounds of extracted honey. Had it not been for his official duties he could have doubled the number of colonies and the results. If your locality is a poor one, let it be your first step to seek a good location. Why waste your life as a bee-keeper in a poor location? Get a good location, get some good stock, spread out and keep several hundreds of colonies, and make a success worth while.

Don't say you can't do this. You can. The first, and the most important step, is to *decide* to do this. Don't say you haven't got the money. That is no excuse. You can get it. If you were given the alternative of going to prison one year, or paying $100, you would get the money some way. If a surgical operation were necessary to save your arm or leg, and the cost of having it performed was $100, you would raise the money. It is only a question of having sufficient incentive and the money will come. If you can get up sufficient enthusiam, and courage, and faith in the business, you can accomplish almost anything you *will* to accomplish. I received a letter, only a few days ago, from a young man in Canada, saying that he began bee-keeping seven years ago. At that time his capital consisted of a first-class wife and a bouncing baby boy. He went in debt for $100-worth of bees, and had to endure the jeers and taunts of friends at his imprudence. The $100 was paid before the year was out. Now he has 350 colonies of bees, a little home all paid for, and money in the bank sufficient to keep them several years if necessary. What man has done, man can do.

Many bee-keepers don't realize their own powers; they possess traits and possibilities capable of accomplishing great things, once they are aroused to action. To illustrate: I lay my good right arm prone upon the table. It lies there usless and inert. It possesses powers, but they are dormant until, from the brain, along these fine, thread-like nerves, darts that subtle fluid, electricity or magnetism, when the muscles are stimulated into action, and wonderful are the results. These few words of mine may be the needed stimulus for starting into action, and arousing to new life, many a poor bee-keeper now plodding along in a rut with only a few bees. They may encourage him to join the ranks of the "New Bee-Keeping," and eventually place his feet upon the mountain-top of prosperity.

SHALL THE NATIONAL ASSOCIATION GATHER HONEY-STATISTICS?

If there is any one feature of the recent report of the General Manager of the National Association, over which bee-keepers are enthusiastic, it is the publication of the addresses of the members, together with the number of pounds of honey produced—particularly the latter feature. Many members have found a market for their crops through this publication of the amounts they had produced, and many who wished to buy honey learned who had it for sale.

From conversations with bee-keepers that I met in my recent trip through New York, and from discussions at the conventions, it is very evident that there is an urgent demand that the General Manager go one step farther, and receive statistics of the honey crop just as soon as possible after it is gathered, tabulate the reports immediately, and mail the results to each member. A knowledge of what the crop has been all over the country, placed in the hands of the members immediately after the gathering of the crop, would be of immense value in marketing the crop. One of the first anxious inquiries put to Manager France at the Los Angeles Convention

was: "What is the crop of white honey in the North and East?" This inquiry came from Texas where the crop was ready for market, and this member had his plans all made to go to a certain State to market his tons and tons of honey. The information that Mr. France could give him, enabled him to change his plans and go to altogether a different part of the country than he had intended—a State where the crop had been light. This is given simply as an illustration of how the gathering and publishing of statistics can help in the marketing. It will tend to prevent gluts in the market, and help to maintain prices. If a man knows there has been a bountiful crop, generally, he will sell his crop at a fair price, if it is offered, instead of holding it until prices fall still lower. If there has been a general shortage, he would feel justified in holding his crop if the prices are low.

Consultation with Messrs. Hershiser, Marks, France, Root, and others, allows the publication of the following plan: As soon as the harvest is over in the Southern part of the country and California, let the General Manager send a return postal card to each member residing in the South and in California, and in other portions of the country having an early harvest. It may, and probably will, require some correspondence, and judgment, to correctly divide the country into two districts, the early and the late, but it can be done. Let the postal sent out have blank spaces for writing down the following: Number of colonies run for extracted honey, number of pounds secured, and retail price; then the same in regard to comb honey. When the postals come in, let the Manager tabulate the results, print them on a sheet of paper and mail them to all the members. Later in the season, let him send out similar cards to the members in that part of the country having a late harvest, tabulate the results and mail them to the entire membership.

These tabulated results will show, for instance, the number of men who have reported from New York, the number of colonies run for extracted honey, the number of pounds produced, the average yield, and the retail price. The same facts will be shown regarding comb honey. What is shown in regard to New York will also be shown of all of the other States. Of course, these reports will not show what the *entire* crop is of any State, simply the crops of the men who are reporting, but if we can get accurate reports from all, or nearly all, of the members of the National Association it will be a most reliable indication regarding the entire crop of the country. After this system of gathering reports has been continued for a series of years, we will finally establish what might be known as an average for each State. In ten years from now we may be able to say that an average crop of extracted honey, in New York, is 50 pounds: then, if our statistics for the next year show an average of 75 pounds, we will know that New York is away ahead of the average.

This proposed plan is published that it may be criticised, and suggestions made. If any reader sees weak points, or can suggest new ones, will he please write the Review?

One thing more, the taking up of this work will entail a lot of extra labor upon a man who is now earning twice his salary as General Manager, and it would seem no more than fair if he were allowed a little extra compensation for this extra work. He is now receiving only 15 per cent. of the gross receipts, while the constitution allows us to pay him 20 per cent. if we see fit.

I believe the time is now ripe for adding this valuable feature to those already possessed by the National, and that it would prove a most powerful inducement in securing new members.

EXTRACTED DEPARTMENT.

YOUR PRESENT BUSINESS.

It May Be the Best Business for You.

A business with a beautiful, fascinating exterior, is often filled with trials and perplexities. To many men some other business than their own seems more attractive. To me, the commercial traveler, well-dressed, well-fed, well-paid, traveling about the country, may seem to be leading a life of pleasure. Passing my window and seeing me busy at my desk, one of the "knights of the grip" might envy "that fellow with his snug little business right at home." And so it goes; but the most sensible advice that I have seen on this subject comes from a writer in the Four Track News. He says:

"The average man thinks every other business better than the one in which he is engaged. Sometimes he is so sure of it that he makes a change, and then comes to a discovery. He finds that the new business, which at long range looked so rosy, has a full complement of thorns, not altogether different from those which beset his old occupation. Instead of indulging in such day dreams about other people's affairs, men would make more progress by employing their spare time in nipping the thorns that annoy them.

WIRING BROOD-FRAMES.

Some Reasons why the Wires Should not be Drawn so Taut when Heavy Foundation is Used.

Naturally, most of us suppose that the tighter we draw the wires in wiring brood-frames, the better. Mr. F. Greiner, of New York, thought so, and made some experiments that seemed to prove that he was correct in his conclusions. He reported them to Gleanings. Editor Root explained why he thought Mr. Greiner's experiments turned out as they did, and also gave reasons why the wires may be made quite taut with light foundation, but should be more loose with the heavier makes. As the season when bee-keepers *ought* to be wiring their brood-frames is now here, it may not be amiss to give Mr. Root's advice. He says:

Whether or not you should draw your wires taut will depend on the weight or heft of foundation used. Wax 8 or 9 sheets to the pound will buckle in the drawing out if the wires be drawn taut. Sheets 6 or 7 feet to the pound will draw out into good combs as flat as a board, whether the wires be drawn taut or not. But a tight wire will not begin to stand the strain of one drawn moderately loose. The reason of this is obvious. If it is stretched to half its breaking strain, a little more strain will break it, like a slam or bang in an extractor. If there is no strain on the wire, and it is drawn tight enough to take out all the slack, and a little more, it is easy to see that it will stand a great deal more strain than if it be drawn up more nearly to the breaking-point.

But there is another factor to be considered. The tighter the wires are drawn the heavier the foundation required. I believe it is possible for one to use a very light grade of wax by using wires drawn to the proper tension—not too taut. Foundation 8 or 9 feet to the pound is certainly cheaper than 6 to 7 feet; and if looser-drawn wires will stand a greater strain, and if you get as good comb with lighter foundation, you are saving in your pocketbook and getting good and stronger comb.

Some six or seven years ago I conducted a series of experiments in this matter of wiring and the degree of tension that could be placed on the same. At first I drew my wires tight, and put in heavy foundation, or what we then called "medium brood." All went well. Later on I used the same tension of wiring, and used light brood. Then the trouble began. The foundation buckled or bulged in between the wires slightly—not seri-

ously, but enough to show that I was getting somewhat of a corrugate-roof effect. Some one, I am not sure who, said if I reduced the tension of the wires so that they could sag a little bit with the foundation, the combs would come out true and nice, and they did. That person, if I remember rightly, was Geo. E. Hilton, of Fremont, Mich. If so, he can corroborate by his own experience the matter covering some years before that time. We had been using perpendicular wiring, and Mr. Hilton took occasion to compliment me for recommending horizontal wiring in opposition to the views of my respected father.

All foundation, in proportion to its weight, has a tendency to stretch a little in drawing. The stretch is downward a very slight amount. If the middle supports of the wires will allow no sag, there is pretty sure to be a wavy appearance to drawn comb.

It would be interesting to know how heavy your foundation was where the wires were drawn up like fiddle-strings. I will bet a cooky that it was medium brood; and if so, I can readily understand how you got nicely built-out combs. Try the experiment again with light brood, on a warm day, or in a strong colony, and see what you will get.

KEEPING MORE BEES.

Let it be Done by Increasing the Number of Colonies, not of the Number of Owners.

For three or four years I have been preaching the gospel of "keeping more bees," and, that any one should oppose it I had never dreamed; but, it has been done, and over in our sister country, Canada. Mr. W. H. Kirby, in the Canadian Bee Journal, expresses himself as follows:

Somewhere about three or four years ago at a convention held in Buffalo, a Mr. Coggshall, of New York State, pealed forth the advice to bee-keepers, to "keep more colonies" in order to increase their income. He was soon followed by W. Z. Hutchinson, at another convention with a similar note, "Keep more colonies." Such advice, coming from such apicultural gods filled the whole fraternity within the sound thereof with consternation and amazement. This new "evolution" in business was a stunner to a great many, and I have no doubt was a stimulus to a large number, who went to the expense of getting more hives, etc., and of providing winter quarters for more colonies, and the extra labor contingent thereto, all this extra trouble to produce more honey in order to increase their income, has resulted in over production, which has brought the price down. Had there been a favorable season in Eastern Ontario and Quebec, the price would have been much lower than it is. Just imagine a lot of manufacturers increasing their plant and output in a limited market, to increase their income. It seems to me it would cause a big slump in the price of their product. There are individual cases like Coggshall's who have done it and succeeded. But for every bee-keeper, or part of them, to do likewise means ruin. This new "evolution" in business won't work in bee-keeping any better than in any other business.

I see by York County Bee Keeper in December "C. B. Journal" that W. Z. H. is booming this new "evolution" again in his paper. From the present price of clover honey, I don't think he will influence many Canadian bee-keepers. There are already too many colonies in the country for the business to be very profitable.

Perhaps I am peculiarly constituted, but when a man opposes me, and argues against me, and I think him sincere, instead of feeling any antipathy toward him, there comes over me a friendly feeling for him. There is a disposition on my part to go over and stand by his side, and try to see how the matter looks from his point of view. I like to look at the matter from both sides, and I try to feel as willing that *I* should be proved to be incorrect as that my opponent should be showed to be in the wrong. I wish to know the real truth regardless of which must yield to the other. I never stand by a proposition a minute longer than I believe it is *right*, but, so long as I *do* stand by it, I stand firm. So much by way of an introduction, and now let us look at this matter of keeping more bees.

When there has been a full crop, and prices decline in consequence, it is a little difficult to see the philosophy of keeping more bees, and I will frankly admit that if *every* bee-keeper should double his number of colonies, and this should result in doubling the crop, with no extra efforts put forth in marketing, and the price should go down one-half, there would be nothing gained in "keeping more bees." But the real *fact* is that not *every* bee-keeper will keep more bees. It is only a *few* of them that will wake up to the opportunities in this direction, and, if this enterprise among a *few* bee-keepers *should* help to depress prices, it will only help to drive out of business those who are not so enterprising. It is always the man who produces at the maximum profit who succeeds, while he who produces at the minimum profit fails. Here is the real point of the whole argument: Where is the bee-keeper with 100 colonies, who produced 10,000 pounds of extracted honey last year, who would not be better off, financially, if he had kept 200 colonies, and produced 20,000? As I have already said, *if* every bee-keeper in the country had doubled his colonies, and his crop, and this had reduced the price one-half, there would be no gain to bee-keepers, but this is supposing something that will *never happen*.

Even if the honey crop *should* be doubled by the keeping of more bees, there is no assurance that prices would drop in proportion. As a commodity drops in price, it is used more largely, which has a tendency to bring prices back again. All things eventually find their level.

Then here is another point: The proper distribution of the crop in marketing is something towards which scarcely any organized effort has been directed. It is expected that the National Association will do something this year in the way of gathering statistics in time to have them available when marketing honey. This question of marketing is really the most important question before us, and the Review expects to do its hardest work in that direction the coming year. When we consider the number of people in this country, and the number of pounds of honey produced, we are astonished at the small amount per person. We should keep more bees, and, at the same time, improve our methods of marketing. Let no one imagine for one moment that he can increase the prosperity of the bee-keepers by persuading them to keep fewer bees in order to cut down the amount produced, and thus raise the price. That is beginning at the wrong end of the problem. Let us keep more bees, produce more honey, reduce the cost of production, and improve our methods of marketing.

Just a word in closing, in regard to how I would have bee-keepers keep more bees. I would not do it by increasing the number of bee-keepers, but by increasing the number of colonies now kept by those already in the business. I am working to increase the prosperity of the existing bee-keepers, instead of adding to their numbers. If a man feels that bee-keeping is his calling, he will be welcomed into our ranks, but I never believed in hurrahing in every Tom, Dick and Harry. By so doing we often do a wrong to all concerned.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Great Clubbing Offers.

Here is a list of magazines, together with the regular prices at which they are published:

CLASS A.		*CLASS B.*	
Success, - - - - - - -	$1.00	The Review of Reviews -	$2.50
Frank Leslie's Pop. Mo.	1.00	The World's Work, - -	3.00
The Cosmopolitan, - -	1.00	Outing - - - - - - - -	3.00
Woman's Home Companion,	1.00	Country Life in America,	3.00
Good Housekeeping, - -	1.00	Lippincott's Magazine, -	2.50
Pearson's Magazine, - -	1.00	The Independent, - - -	2.00
		Current Literature, - -	3.00

If you subscribe for one or more of these magazines in connection with the Bee Keepers' Review, I can make the following offer:

Success, and the Bee-Keepers' Review, for only $1.75
Success, any one magazine in class A, and the Bee-Keepers' Review for only 2.50
Success, any two magazines in class A, and the Bee-Keepers' Review for only 3.00
Success, any three magazines in class A, and the Bee-Keepers' Review for only 3.50
Success, any one magazine in class B, and the Bee-Keepers' Review for only 3.50
Success, any two magazines in class B, and the Bee-Keepers' Review, for only 5.00
Success, any three magazines in class B, and the Bee-Keepers' Review, for only 6.50
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Success, any two magazines in class A, any one of class B, and the Bee-Keepers' Review for only 4.50
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Magazines will be sent to one or different addresses as desired.

W. Z. HUTCHINSON, Flint, Mich.

SALZER'S SEED NOVELTIES

HANNA BARLEY

SPELTZ

MAC WHEAT

OATS

BROMUS

ALFALFA &C.

SALZER'S NATIONAL OATS.

Yea, farmers of America lend me your ears while I chant the merits of this new Oat Novelty.

Editors, Agricultural Writers, Institute Orators, all talk and write about this new Oat. It yielded in Wis 156 bu., in Ohio 187 bu., in Mich. 231 bu., in Mo 255 bu and in N. D. 310 bu. per acre, during 1903, and in 1904 you can grow just as easily 300 bu. per acre of **Salzer's National Oats,** as we can. Your land is just as good, just as rich and you are just as good a farmer as we are. We hope you will try this Oat in 1904, and then sell same for seed to your neighbors at a fancy price, next fall.

Macaroni Wheat.

It does well on arid, dry lands as also on rich farm lands, yielding from **30 to 80 bu. per acre.**

Speltz and Hanna Barley.

Greatest cereal food on earth. Yields 4 tons elegant straw hay and 80 bu. of grain, as rich as corn, oats and wheat ground together' Does well everywhere Hanna Barley grows on dry, arid lands, yielding 60 bu per acre.

Salzer's Home Builder Corn.

Positively the biggest eared early corn on earth yielding in Ind. 167 bu , Ohio 160 bu , Penn. 198 bu., Mich 220 bu. and S. D. 276 bu. per acre. It is really a marvelous corn. Sinks its roots deeply after moisture and nourishment and grows like a weed.

Bromus Inermis and Alfalfa Clover.

Bromus Inermis is the most prolific grass for permanent pastures on earth. Yields 7 tons hay per acre Good on sand, lime, clay, gravel—yes, on all kinds of soils'

Alfalfa Clover produces more hay and better hay than any Clover known. It is good for 7 tons per acre.

Potatoes 736 bushels per Acre.

The Editor of the RURAL NEW YORKER says, "Salzer's Earliest Potato is the earliest out of 58 early sorts tried, and yields 464 bu. per acre, while Salzer's Early Wisconsin yielded for them 740 bu. per acre. Salzer's Potatoes for yield challenge the world!"

FOR 10c IN STAMPS

and the name of this paper, we will send you a lot of farm seed samples, including some of above, together with our mammoth 140 page illustrated catalog Send to-day.



JOHN A. SALZER SEED CO. LaCROSSE, WIS.

G. B. LEWIS SECTIONS

These sections are the best in the world, and I am prepared to handle them in Canada. I also keep in stock all kinds of bee-supplies. I am running two yards of 300 colonies each, and I want a good man to take charge of one of them. They are run for comb honey. None but a good man need apply.

I am also breeder of S. C Black Minorcas, all imported stock from England and Scotland. 15 eggs for $1.00. B. P. Rock, Beadley Thompson and Leffell Conger Strain, 15 eggs for $1.00. Beeswax wanted.

N. H. SMITH,

2-04-1t Lock Box A. Tilbury, Ont. Can.

Please mention the Review.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

A PLEASANT SURPRISE.

When it was announced in the Review that I was the breeder of Superior Stock, the customers of both myself and Mr. Hutchinson were very pleasantly surprised. The letters that I am receiving show this. Here are two samples:

FOUNTAIN CITY, Wis., Jan. 12, 1904.

J. P. Moore, Morgan, Ky.

Dear Sir:—Kindly send me a copy of your descriptive folder and price list of Superior Stock Queens. I have had a number of them from Mr. Hutchinson, and I have found that if would have been dollars and dollars in my pocket if my whole yard had been stocked with this strain of bees. JOSEF M. REITZ.

SALEM, N. J., Jan. 14, 1904.

J. P. Moore, Morgan, Ky.

Dear Sir: I am certainly glad to know that you are the man who has been furnishing W. Z Hutchinson with queens of the Superior Stock I know of no other breeder in the United States that I would be more pleased to know furnished this stock, for I can honestly say that the very best queen I ever got, came from you. I also got a queen from Mr. Hutchinson in 1902, and I can truly say that she distinguished herself as really Superior Stock.

L. C. MEDKIFF.

Drop me a postal, and I will send you the neatest little folder that a queen breeder ever sent out. It will tell you how this stock was originated, how it is bred, and how it has delighted some of the best bee-keepers in the United States. It will also give prices.

J. P. MOORE. Morgan, Ky.

— If you wish the best, low-priced —

TYPE - WRITER.

Write to the editor of the REVIEW. He has an Odell, taken in payment for advertising, and he would be pleased to send descriptive circulars or to correspond with any one thinking of buying such a machine.

Please mention the Review

—If you are going to—

BUY A BUZZ-SAW

write to the editor of the REVIEW. He has new Barnes saw to sell and would be glad make you happy by telling you the price which he would sell it.

Please mention the Review.

The Pacific States Bee Journal

Is a publication you should read, especially if you keep bees in the Pacific States. $1.00 a year—sample copies free.

PACIFIC STATES BEE JOURNAL.

1-04-12t TULARE, CALIF.

Bee Hives Cheap!

Called "Poor Man's Hive."

I am having bee hives cut out at the Michigan State Prison Box Factory, where labor is cheap. These hives are made of Michigan white pine, corners halved together so they can be nailed both ways. Hoffman frames are furnished, supers to take either plain or bee-way sections. Eight-frame 1½ story hives, nailed and painted, starters, sections, etc., ready for the bees $1.50; 5 in the flat, $5 00; 10 for $9.00; 20 for $17.50; ten-frame, 15 cts. more. Sections at last years' prices. Dovetailed hives, also the Danzenbaker in stock. Subscriptions to bee journals given free with orders Send for list explaining

W. D. SOPER,

1-04-tf R. D. 3. Jackson. Mich.

Bee-Keepers

It is a conceded fact that the bulk of the honey of the future is going to be produced in the irrigated portion of what is known as "Arid America." If you are interested in the progress of apiculture in this vast region, you should subscribe for the

Rocky Mountain Bee Journal,

a twenty-page monthly; price 50 cents per year.

This is now the only bee publication west of the Missouri river. We have several hundred eastern subscribers, and have still room for more. Write for free sample copy. Address

H. G. Morehouse
Boulder, Colo.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address:

J. E. Merritt,
Gen'l. Mgr.
Michigan Land Co.,
Manistee, Mich.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers.

Large and complete stock on hand at all times. Low freight rates.

Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation, because made by a process that produces the CLEANEST and PUREST, and in all respects the best and most desirable. Send for samples.

Working wax into foundation for cash

a specialty. BEESWAX ALWAYS WANTED at HIGHEST PRICES.

A Full Line of Supplies, retail and wholesale.

Send at once for catalog with prices and discounts.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

GUS DITTMER,
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DADANT'S

Foundation

By the new ***Weed Process*** is made in the best manner, upon the best machines, and from the best wax—that free from dirt, pollen, propolis, burnt wax, etc., that decrease its tenacity and make it offensive to the bees. Every inch of foundation is guaranteed to be equal to the sample that will be sent upon application.

Langstroth on the Honey Bee, revised, Smokers, Tin Pails, Sections and other supplies. Send for circular.

Dadant & Son,

Hamilton, Ills.

Sections.

We make millions of them yearly; workmanship, smoothness and finish can't be better The basswood grows right here If you want some good ***Shipping Cases,*** you can get them of us. A full line of ***Bee Supplies*** on hand.

Write for illustrated catalogue and price list free

Marshfield Mfg. Co., *Marshfield, Wis.*

Our New CATALOG Is Ready.

Sixty-eight pages listing everything the bee-keeper needs. The very finest goods furnished promptly.

2 per cent. discount during February.

G. B. Lewis Co.

BEE-KEEPERS' SUPPLIES.

Watertown, Wis. U. S. A.

Marketing

Of honey is fully as important as its production. To produce a crop of honey cheaply, and to sell it to the best advantage, are distinct processes.

Whether honey should be sent to a distant market, whether sold outright or on commission, whether the home market can be profitably developed, whether the bee keeper should sell the honey himself, or employ some one, the peddling of honey, etc. are all thoroughly discussed in one of the chapters of "ADVANCED BEE CULTURE." Remember, too, that this is only one chapter out of 32.

Price of the book, 50 cts.; the Review one year and the book for $1.25. Stamps taken, either U. S. or Canadian.

W. Z. HUTCHINSON, Flint, Mich.

The Best and

Finest Fruits,

Vegetables and Flowers may be had by planting our Trees, Seeds and Bulbs. We make a specialty of improving and testing new fruits, vegetables and flowers. We have a full assortment of the best and most reliable old Standard Varieties. We grow and test the most promising ornamental plants, shrubs and trees and recommend only the best varieties.

Special Seed Offer.

For 10c and 10 addresses of people who buy seeds, trees, bulbs, greenhouse plants, etc., we will send 10 packets of the earliest known varieties of cabbage, tomato, beet, raddish and lettuce. Two best varieties of each. ***Ten packets for 10c.***

We make a specialty of ***Northern Grown Seed Potatoes.***

Send us list of nursery stock, shrubery plants, seed potatoes, etc., needed and we will give you our lowest prices. We are always pleased to answer questions about fruits, flowers or vegetables. Send for our catalog.

T. C. FURNAS & CO.
Nurserymen, Florist and Seedsmen.
1-04-3t Indianapolis, Ind

I am advertising for B. F. Stratton & Son, music dealers of New York, and taking my pay in

MUSICAL INSTRUMENTS.

I have already bought and paid for in this way a guitar and violin for my girls, a flute for myself, and one or two guitars for some of my subscribers. If you are thinking of buying an instrument of any kind, I should be glad to send you one on trial. If interested, write me for descriptive circular and price list, saying what kind of an instrument you are thinking of getting.

W. Z. HUTCHINSON, Flint, Mich.

Wanted:—To sell an apiary of 100 colonies, fully equipped, in Hilton Chaff Hives; or a young man as partner, to take half interest in above; also an out-yard of 50 colonies, location as good as Northern Michigan affords.

CLINTON F. PULSIFER,
1-04-tf Nesson City, Mich.



THE PARKER PEN

has the "LUCKY CURVE"

The "lucky curve" is a curve in the feed-pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

When on my way to the Los Angeles convention, I saw Mr. France using a fine fountain pen that worked nicely, and I asked him what kind it was. He said it was a "Parker," made by the Parker Pen Co., of Janesville, Wis. I tried it and was so enthusiastic in my praise, that Chas. Schneider pulled out his pen and asked me to try that. It seemed to work as well as the other and I said: "There must be other good pens as well as the Parker. It is strange that I have never been able to buy one." "Mine is a Parker, too," said Mr. Schneider.

As sooh as I reached home I sent for a Parker and have been carrying and using it ever since with the greatest of satisfaction.

There are styles of pens of different prices, from $1.50 up to $10.00, depending mostly upon the finish of the handle. My pen cost $2.00, and, so far as practical use is concerned, is the equal of any.

So pleased am I with this pen that I have made arrangements whereby I can send the Review one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,
Flint, Mich.

POULTRY NEWS.

Twenty-five cents yearly. Agents wanted. Bee department conducted by Fowler, the bee man of Ardsley, N. Y. Twenty pages, illustrated and up-to date.

10-03-tf New Brunswick, New Jersey.

Many Improvements This Year



We have made many improvements this year in the manufacture of bee-supplie The following are some of them: Our hives are made of one grade better lumb than heretofore, and all that are sent out under our new prices will be supplie with separators and nails. The Telescopic has a new bottom board which is a comb nation of hive stand and bottom board, and is supplied with slatted, tinned separator The Higginsville Smoker is much improved, larger than heretofore, and better mat rial is used all through. Our Latest Process Foundation has no equal, and our high polished sections are superb indeed. Send five cents for sample of these two article and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sur enough, with a pocket to catch the dripping wax, and a treadle so that it can b worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manu facture is the Heddon Hive. We do no hesitate to say that it is the best all roun hive ever put upon the market; and w are pleased to state that we have mad arrangements with Mr. Heddon to the en that we can supply these hives; and th right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly orn mental, better manufactured; and, whil the castings are lighter, they are mor durable than heretofore, as they are mad of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improve being brimful of good things from the pens of some of the best writers in our lan and we are now making of it more of an illustrated journal than heretofore. Pric only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progre sive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address:

J. E. Merritt,
Gen'l. Mgr.
Michigan Land Co.,
Manistee, Mich.

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

We are Jobbers of Bee-Keepers' Supplies in

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Representing the G. B. LEWIS Co., and DADANT and SON. Wholesale and Retail. Several Carloads constantly on hand. Send for 40-page illustrated catalog.

Lewis C. & A. G. Woodman,

Grand Rapids, Michigan.

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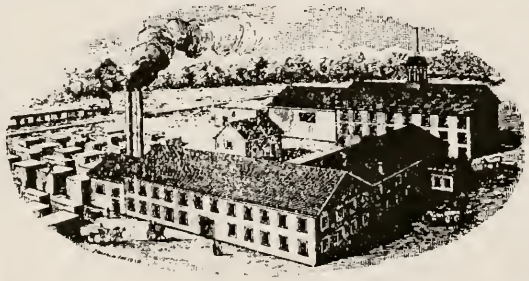
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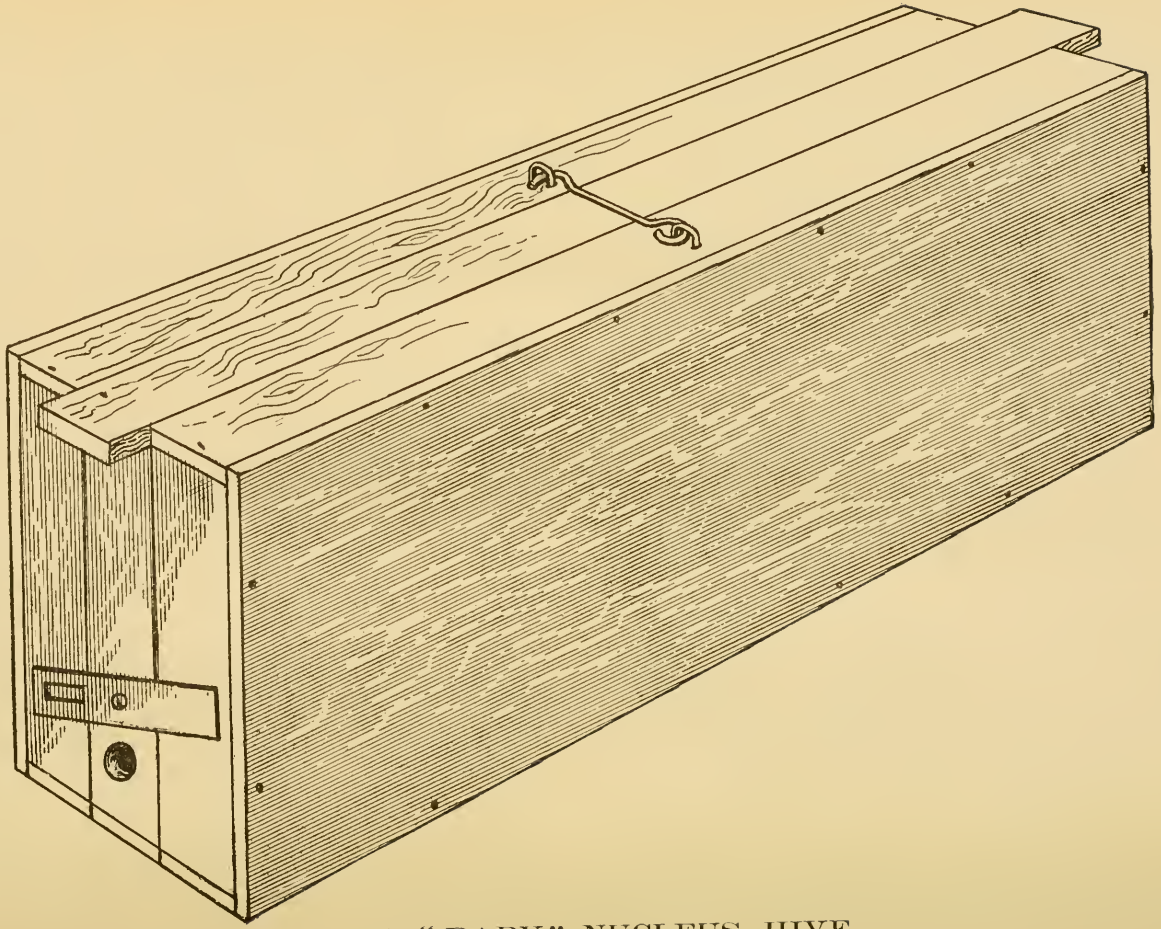
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A "BABY" NUCLEUS HIVE.

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VOL. XVII. FLINT, MICHIGAN, MARCH 15, 1904. NO. 3.

Mating 300 Queens by Using the Bees of Only one Colony.

BY W. H. LAWS.

THE following wholesale method of mating queens is entirely new, and has not been described before, so far as I know, except by Mr. C. B. Bankston, a few months ago, in the American Bee-Keeper.

THE WONDERFUL ADVANTAGES OF THIS METHOD.

The advantages of this method are that it allows the introduction of virgin queens from five to seven days old, it avoids all trouble from fertile workers, there is no loss from the absconding of nucleus colonies, queens may be mated in a chosen locality free from objectionable drones, and, most important of all, the bees of one colony can care for and allow the fertilization of as many queens as can be reared by *five* colonies! All this may seem too good to be true, but, nevertheless, for the past year, I have been practicing a method possessing all of these advantages, I am going to describe it for the benefit of my brother bee-keepers.

In the first place you must get out of your head all idea of having or maintaining *permanent* nuclei. Instead, there are used a great number of small boxes, weighing, when empty, only a few ounces each, and holding only one small comb of honey to each box. Equipped with as many of these boxes, already prepared, as we have virgins in our nurseries, we proceed to shake all the bees from the combs of a populous, *queenless* colony (after making the bees fill themselves with honey), putting the beeless combs into an empty hive, and setting it on the old stand, to which enough bees will return to care for the brood.

NUCLEI WITH ONLY 100 BEES IN EACH.

Now move the old hive, containing the honey-laden, queenless bees, to some shady, convenient spot, and, with a small tin cup, dip from the cluster a small wad of bees, say about the size of an unhulled walnut, containing about 100 to 150 bees, never more than 200, open one of these little boxes, and pour the bees right into the box, upon the comb of honey, close the box. snap

the hook and lay it aside. Keep on dipping and filling until all the boxes are filled. The bees, being loaded with honey, dip nicely, and, not being able to climb the smooth inside of the cup, they handle about like so many beans.

Soon the bees in the boxes are all buzzing and roaring, and thus lamenting their queenlessness and confinement, when we are ready to introduce the virgin queens, which is done by running them into the little, 5-16 inch, round entrances to the boxes.

When the virgins are all run in, and the entrances closed, the boxes may lie in the shade until the evening of the next day, or even 48 hours, and no harm will come.

The bees, being queenless and confined, always accept the virgin given, regardless of her age, or from whence she has come. I believe that the general acceptance of these virgins by the bees is not so much because of their queenlessness as it is because of their *confinement.* Long ago I discovered that almost any *confined* bees will accept any kind of a queen, provided she is given *immediately* after the bees have discovered their confinement.

Within 24 hours the bees in each of the baby nuclei have concluded that their escape is impossible, and, resolving that "what can't be cured must be endured," they accept the situation, together with the queen, and quiet down. Later the nuclei may be carried out 300 or 400 yards, and the entrances opened as the nuclei are scattered under the brush, lodged in the forks of trees, hung on a wire fence, or pitched into the weeds—anywhere in any position, any side up, only be sure they are in the shade, where they remain a few days until the queens are laying.

These little, miniature swarms with virgin queens behave very much like newly hived swarms. Queenless when caged, and remaining 24 hours with a virgin queen, every bee seems to consider the box as its home, and one or two bees are always on guard at the entrance.

The *next day* after distributing the nuclei, we expect the queens to be mated, because they are of the proper age to do so. After the third day the little zinc slots can be turned over the entrances so as to prevent absconding.

As soon as another batch of virgins is ready, these little boxes, when emptied of bees, are ready to be refilled and used as before.

I have mated 150 virgins with the bees from one colony, at one operation, and left enough bees in the colony to maintain the home. I have seen colonies with the bees of which I think I could have mated 300 or 400 queens! Now I have told you how to mate the virgins of five colonies with the bees of one!

NO TROUBLE FROM ABSCONDING.

Did you ever notice what a rare occurrence it is for the bees and queen of a nucleus to abscond before the mating of the queen? In my experience it is after she returns from her wedding flight, and plans are being laid for a perpetuation of their home, that dissatisfaction and desertion step in. The room is too large; or the larder empty; or after egg-laying and brood-rearing have begun, then comes unrest, and, consequently, absconding. With our little boxes, and small, fat combs of honey, there seems little disposition to seek new quarters—much less than with the stronger nuclei and standard frames.

After the queen begins laying in the baby nucleus the little zinc slot is turned across the entrance, and the queen is safe. Many is the queen I have tested as to purity of mating in these little boxes.

WHY THERE ARE NO FERTILE WORKERS.

Fertile workers? How can we be pestered with these pests when fresh bees are used with each mating?

And now we come to the last proposition of controlling the mating of our queens. With these baby nuclei, of which a man may carry from 15 to 25 on his arm like a load of stove-wood, or hundreds of them may be piled into a spring wagon, don't you see how readily handled, how really *transportable* they become? With a load of several hundred of these, we pick up our colony of choicest drones, go out upon the prairie two and a half or three miles from anybody's bees, or house, distribute our little boxes, and liberate our drones. Possibly the next day every queen will mate, and that to the very drones of our choice. All these can be brought in, and, if so desired, queens and drones of *another race* may then be mated on the same ground.

CONSTRUCTION OF THE NUCLEUS BOXES.

The construction of the boxes is very simple, yet they form a very important part of this method. Imagine two little trays, ¾ inches deep, 11¼ inches long and 4¼ inches wide, hinged at the bottom with leather strips, and made so as to clamp a little frame (of the same dimensions) of honey, between them, so tightly that it cannot move. The outside surface of frame becomes a part of the box, and all is held fast by a spring hook and staple at the top. The hook fits so snugly that it goes on with a snap. An entrance for the bees is made in the end-bar of the frame by boring with a 5-16 inch bit through the end-bar of frame, near the lower corner. A little zinc button is used; one end solid zinc for closing the entrance, the other a single queen-excluding slot; and when the button is turned crosswise, the entrance is then wide open.

To get these little combs of honey for the baby nuclei, frames are made to fit crosswise in an 8-frame, half-depth super, and old combs are transferred into them and given to ordinary colonies during a honey flow. Of course, these may be filled with foundation, but old combs, well attached, are preferable.

SOME INTERESTING NOTES ON THIS METHOD OF QUEEN-REARING.

I have 1,000 of these little combs, and 750 of the little boxes, and I believe that, with cells hatching at the proper time, 2,000 or more queens can be mated every thirty days, and a large part of the labor may be performed by a cheap man; the expert rearing the cells and filling the boxes.

My nursery cages are so constructed that 48 fill a standard L. frame. There is wire cloth on each side, and a little waxed, square, wooden cap, to which the ripe cell is attached, exactly covers one of the 48 compartments; a little three-cell piece of drone comb placed in the bottom of each compartment, and filled with honey from a common, clean, oil can, furnishes ample food for a virgin queen a week or more, and is just what she needs. Nurseries containing cells, are hung in upper stories of any populous colonies, with laying queens, instead of queenless colonies as many of our best writers advocate. Queenless bees usually select and nurse a few of the virgins and worry the others to death. If placed in colonies with laying queens, no attention is given the virgins and they seem to fare better.

I have distributed these little nuclei at 2:00 P. M. and at 4:00 P. M. of the same day found many virgins mated. These freshly mated virgins have been picked up, and introduced to full colonies, when, in three days, I have found them filling the comb with eggs.

By a mistake, 36 virgins were caged until 18 days old, and most of them mated within two hours after distributing the nuclei on a nice afternoon.

While I do not recommend less than the number of bees specified, I have had a queen mated and laying with only *ten* bees, by actual count!

If baby nuclei are carried away from all other bees to the "mating grounds," no robbing occurs even though there may be a dearth of honey. With only one little comb, and that well filled with honey, the bees busy themselves moving honey, clearing up a little spot about the size of a dollar, for the brood nest, and in secreting wax to build little spurs from the comb to the side of the box. When empty, these little combs make the nicest little brood nest for the next lot of bees and queen, and they never fail to accept such a spot as the proper place to begin.

If so desired, ripe cells may be given instead of virgins, but our progress at turning out queens will not be so rapid.

Upon one occasion, 57 ripe cells from a favorite queen were given, the nuclei hauled 15 miles to mate to special drones, and I succeeded in getting 51 laying queens from this lot.

Seventy-four baby nuclei were pitched out under the brush the last week in October, each containing a virgin queen, and I saw them no more until the second week in January, after a slight freeze, yet from them I took twenty-four laying queens. Others perished with the cold.

The advantages of this new system of queen mating are evident. Thousands of queens may be mated without the loss of tearing up your colonies into the old style nuclei, rendering all worthless for a crop of honey, and weakening your full colonies; instead, *all* the bees of one colony may be used to mate several hundred queens, and, in five or six days all may be returned to their parental home.

BEEVILLE, Tex., Jan. 24, 1904.

Portable Honey Houses and Their Interior Arrangement.

BY E. D. TOWNSEND.

ONE of the first things I learned, with out-yards on rented ground, was the uncertainty of how long an apiary would be left in a certain place. To illustrate: One yard was located too near the highway, and the bees bothered teams that went by, hence it had to be moved to another part of the farm. One man sold out, and the new man wouldn't have bees on his farm under any consideration. Then another apiary was moved to a better location. Still another was moved from a location, that was otherwise good, on account of thieves bothering so much. Next spring I expect to move one apiary 100 miles on the cars. All this has caused me to build everything portable. The greatest difficulty in this direction is that of making a good, portable honey-house; but I have accomplished it, and at each of my apiaries I have a 12x16, sectional house built as follows.

DETAILS OF CONSTRUCTION.

The foundation is in two sections, 8x12 feet in size, and is built of 2x6 inch material, placed 16 inches apart, with a 2x6 spiked on the ends. The floor, like the sides of the building, is of matched material. The sides and ends of the house are built separate, and are held together at the corners by means of bolts. The posts are five feet ten inches. The roof is one-third pitch, is shingled, and each half is built separate. The frame-work, except the foundation, is all of 2 x 4 inch

material planed down to 3½ x 1½ inches, as this is heavy enough for this size of building, and makes it lighter to handle. The rafters are three feet apart, and the roof-boards are planed down to ¾ inch thick. The frame for the sides is of three sixteen-ft., and two five-ft. ten inch pieces of 2 x 4. When nailed up the three long 2 x 4's furnish a plate, a sill and a girt. Now, this girt is placed exactly the right distance from the plate so that the window will just fit in between, and slide, on the shop-window plan. Our windows are of the two-sashed kind, with two 12 x 28 inch glass in each. Then the opening is covered with wire cloth on the outside to keep the bees from getting in, as we usually work with the window open. A window of this description is built in each side, a little in front of the center, which brings them in the part of the building where most of the work is done. This makes a light, airy room that is a pleasure to work in, compared to some of the small, dark dungeons I have seen some bee-keepers use. A 2 feet 8 inches by 6 feet 6 inches paneled door is placed in the center of the front end.

Never use a screen-door to an extracting house. If there are any robbers hanging around, there is sure to be a herd of them at the screen-door, ready to rush in every time the door is opened. With a solid-wood door, the robbers all congregate at the screen-windows, and do not bother at the door.

The frames for the ends are built similar to the ones for the sides, with the addition of gable ends built at one-third pitch. The end rafters of the roof rest on the gable-ends. The matched siding is put on up and down, and projects down one inch below the sill, so that the water will not crawl in under upon the floor. The siding on the gable-ends also projects up enough to cover the outside rafters, so as to give a more finished appearance. The foundation is made a little scant of 12 x 16 ft., so that the siding that projects down one inch will slip over it, letting the sill of the building rest on the floor. The outside rafters are also pushed in ½ inch at each end, making the roof one inch short, so that it will come off and go on easily. The corner-posts are set in such a way that when the building is set up the flat sides come together, thus making it more convenient in bolting them together.

This rambling description will give an idea of the principle upon which the house is constructed, and details can be worked out to suit one's fancy.

COST OF A HOUSE.

As to the cost of such a house, I should put it between 40 and 50 dollars. Such a house weighs about 3,000 pounds, and we draw it at one load on our flat rack; and four men can set it up in one hour.

LOCATING THE HOUSE.

In selecting a place for the house, we try to set it at the lowest point in the yard, without getting it too far from the majority of the bees, so that in wheeling in the honey it will be down grade most of the time; and, when we can, it is so placed that a little filling in in front of the door will allow us to run our wheelbarrow in without any up-grade.

HAVE A SET OF TOOLS AT EACH YARD.

Each extracting house is furnished with all the necessary implements for handling the crop. There is no moving of extractors, tanks, etc., from one yard to another. This is important, and as these tools cost so little, there is no excuse for doing all this unnecessary work. If we are ready to extract, we get in our buggy and drive to any yard, and everything is ready, or we can divide up our forces, and extract at two or more yards the *same day*.

The furniture consists of two four-barrel, galvanized, steel tanks, with 1½ inch perfection gate, one two-frame Cowan extractor, one uncapping box, platform scales, wheelbarrow, two Bingham uncapping knives, besides our smokers, veils, robber-cloths, pails, etc. These, with the 60-pound cans to hold the honey, and what combs there may be left in the house during the extracting, will make it necessary to keep everything in its place; and, even then, a good many times our piles of fixtures are stacked up clear to the roof. Sometimes we are a little crowded, especially at the last extracting when all our combs come in.

We like to have our tanks large enough to hold a day's extracting, as we do not like to can up honey the same day it is extracted. Our old tanks, that we put in when we commenced starting out-yards, were too small, so that we had to can some of the forenoon's extracting to give us room to work; but we do not like to do this, as the honey ought to stand at least over night, for the impurities to separate before it is canned.

A SIMPLE, CHEAP UNCAPPING BOX.

Probably as good an uncapping box as any is a cracker barrel with the bottom loosened up so that the honey will drain through and still hold the cappings. Set the barrel over a small-sized wash tub, having two strips of board across the top to keep the barrel up and out of the honey. These strips of board can be let down in the tub so the bottom of the barrel will be a little lower than the top of the tub, then all of the honey will be sure to drip inside. If the barrel is too high, it can be sawed off the right height. Then there must be some kind of a frame across the top of the barrel to rest combs on while uncapping. When this uncapping-box needs emptying, we can dump the contents into a larger barrel arranged the same way. We aim to empty our cappings in the morning, after they have drained over night.

HOW TO ARRANGE THINGS INSIDE THE HOUSE.

The arrangement of things inside the house that suits us as well as any, and probably takes up as little room as any, is to have our tank in the the back, left hand corner, extending along the side. This occupies the space between the end of the building and the window. Then comes the extractor, with the gate toward the tank. Next the uncapping box. Then the honey, as it is wheeled in, is unloaded on the same side next to the uncapping box. This arrangement leaves the middle of the room clear, so there is nothing in the way when we wheel in our load of honey. The back end, and right hand side near the back end, are used as a store corner. We also store our honey and empty, 60-pound cans along the right hand side towards the front.

In my next I will give my method of getting the bees off the combs, uncapping and extracting.

REMUS, MICH, Jan. 23, 1904.

[The reader will see that there are two methods of managing out-apiaries; the one described by Mr. Townsend, that of having a good house, well-furnished, at each yard, and thus being able to pick up, at a moment's notice, going with a buggy, or on a bicycle, and finding everything right at hand ready for work. The other method is on the circus plan, that of not only carrying the tools and implements from yard to yard, but of carrying along a tent to be used as an extracting-house. The first mentioned plan is more costly to inaugurate, but I believe it will be fully as satisfactory in the end—ED. REVIEW]

Bees Roar in Winter and Spring Because Uncomfortable.

BY E. A. MORGAN.

IN the February Review for 1903, page 46, appears an article by Ira Barber, entitled "Keep Fresh Air From the Bees," which is good advice, but the reasons given as to *why* the bees roared, are away off.

It has taken him twenty years to learn that when bees roar they are moving honey, and, instead of being out of condition, they are as happy as a kitten at play. I have spent twenty years in proving that when bees roar in cellar they *are* out of condition, and *not* happy; neither are they moving honey. All moving of honey is done out in the yard in October, long before the bees are set in, and during my twenty years' watch I have never known a drop of honey to change location in the cellar. It is a mistake to say the bees are too warm when they roar. They are either too cold, or the air is too foul—generally the former. Are bees too warm on their summer stands when the thermometer registers 40 degrees below zero? Go out and listen, and you'll find every strong stock roaring for keeps—and the water running out of the hives.

Currents of fresh air in the cellar make the bees uncomfortable, and they rouse up and roar for a time, then become very quiet. Roaring, at *any* time, is a sign of *discomfort*. A cellar or winter repository that will maintain a temperature of 40 degrees, regardless of what it is outside, needs little ventilation directly; but a ceiling overhead porous enough to allow the steam and moisture to escape without losing the heat will be found best.

The 242 colonies mentioned under the living rooms, which came out so strong, had just the right ceiling to allow the air to purify itself and become changed so gradually that it was always sweet. Had the floor above been air-tight, the bees would have *roared*. I have never had bees roar in winter quarters but what they soon had the dysentery, dwindled, and died.

Yes sir, Mr. Barber, if the bees roar they are unhappy and out of condition; the trouble is bad food, foul air, or too cold, and the sooner you bank up warmer, give new food, or change air, the better for them.

HIGH TEMPERATURE NOT DETRIMENTAL —QUALITY OF STORES OF MOST IMPORTANCE.

In the winter of 1887 my winter repository was a cave. With 200 colonies it warmed up to 50 degrees, and even to 60 degrees, and the bees all clustered out as they would on a hot night in June; yet, on April 1st, I set them out in the best condition I ever had bees—every stock ready for the sections, and the least consumption of stores I ever had. The next winter they had poor stores, roared all winter, and dwindled down with dysentery until they were nuclei. I would have no draught of cold air, but I would have porous covering so that there would be enough ventilation to keep the repository sweet.

EXPOSING HONEY TO ROBBERS IS NOT ADVISABLE.

Again, on page 51 of the same issue, is some advice how to stop robber bees from following the apiarist from hive to hive in doing necessary work when no honey is coming in. Mr. C. W. Post recommended setting out some smeared combs for the bees to clean up.

They become busy at them, and do not bother the rest of the day.

How such advice could be offered at a bee convention without comment, I cannot see. Here in Wisconsin if such a plan were tried in an apiary of 100 colonies, it wouldn't take three minutes to set the whole apiary in such an uproar that the apiarist would be glad to run for cover, not only for that day, but for the balance of the season; and any stocks not extra strong would be robbed out. In times of scarcity such a proceeding would call out the whole flying force from every stock in three minutes, enough to eat up his smeared combs, and every hive he could open would be pounced upon with the greatest of fury, and no further work could be thought of that day, or the next, or the next week, unless the flowers yielded honey again.

You may think me quite a critic but I wish to show you that my experience does not agree with all the rest in everything.

DON'T HANDLE SKUNKS ROUGHLY.

One more at present and I am done. This one from Gleanings, October 1, 1903, page 847, entitled "Trapping Skunks in Steel Traps." The advice was that of hoisting them into a nail keg and then drowning. Any one acquainted with the animal knows, without trying, that such a proceeding would bring him to grief. I hope bee-keepers are wise enough not to try it, unless they wish to lose the colony and one suit of clothing, besides demoralizing the whole apiary.

COLBURN, WIS., Jan. 1, 1904.

Overstocking a Good Locality is Exceedingly Difficult.

BY E. W. ALEXANDER.

ONE of the most essential things to be considered in going into a business of any kind, is location. It makes little difference how much energy and skill you put into your business, if you have a poor location you will soon have to give it up—this is very decidedly so in beekeeping.

IMPORTANCE OF LOCATION.

I kept bees in five different counties in New York State before I found a good locality—all things considered. First, we want a succession of honey producing flowers from early spring until the frost comes in the fall. Then it is very desirable to have one or two special harvests of from three to six weeks each, when our bees can gather from five to ten pounds of honey per day for our surplus.

Still another thing to consider, is the distance to a railroad station. It is also well to live within a short distance of a flourishing village or city. I am sure I would not like to live so isolated as some do.

NECESSITY FOR ENTHUSIASM AND PERSEVERANCE.

Then when you have found a location possessing all these requirements, push for business to the *utmost of your ability*. Go at it with a determination to overcome any and *every obstacle* that comes in your way. Never harbor for a *moment* the thought of giving up to *any thing* except death.

OVERSTOCKING IS A MYTH.

Now as to out-apiaries. On this subject I must differ from some of our

best bee-keepers. There is nothing connected with bee-keeping that I have studied on as much, or tested so extensively, as I have out-apiaries. It was drilled into me from my childhood that I must establish an out-apiary as fast as I got 100 colonies, and for the first twenty-five or thirty years of my bee-keeping life, the most of my bees were kept in out-apiaries. After a while I began to notice that the home-yard, although having more colonies than any other yard, gave me more honey per colony than those away from home, and I was soon convinced that the reason of this was that the home-yard *got the best care.* Still, I continued to keep a large part of my bees in out-yards. I would not give up. Older bee-keepers told me that bees were like stock in this respect; they soon got all there was in a certain field, and, if I wanted to make a success of the business, I must be very careful not to overstock my locality. So I persistently stuck to this theory, even when, in my home-yard, of over 300 colonies, during basswood and buckwheat bloom, colonies sitting on the scales would show a gain of from ten to eighteen pounds in twenty-four hours. Still, I was afraid of overstocking. I don't see now how I *could* have been so foolish. After a while I began to let reason and common sense have their way. I would notice in the spring, when the fruit trees were in bloom, that the bees worked on them *all day*, visiting the *same flowers* thousands and thousands of times before night. In the fall I also noticed the same thing on catnip, motherwort, and other honey-producing flowers. When I set out a lot of waste honey, as soon as the bees had licked it up, they would leave the place where it was. This taught me that they will not spend their time *where they can not get anything.* Then, such writers as Doolittle told us they were sure bees would go three or four miles to work on teasels and basswood; and, in the meantime, I had found out that they frequently do go three miles and over to work on buckwheat, so I reasoned to myself that if the flowers secreted nectar all day, and perhaps during warm nights, and the bees could visit honey-producing flowers within a circle seven or eight miles or more in diameter, the likelihood of overstocking, even in an ordinary locality, was rather slim. So, for the last few years, I have been gradually enlarging the home apiary. Last summer we kept about 700 colonies in the home-yard and we intend to have many more the coming summer; and the best of it all is we get as much honey per colony from this large apiary as from small apiaries five miles away, so I am thoroughly convinced that overstocking in an ordinarily good locality is only imaginary; and that out-apiaries, as they are generally run by those that have less than 700 or 800 colonies, are a big lot of trouble, a good deal of expense, and not half as profitable as they would be if all were kept in one yard. My advice is, consolidate your business; have it so that you can attend to anything.

Keep bees that have been bred from the best honey gathering strains of Italians that we have in this country. Then see to it that your hives are crowded with a large working force just before your harvest for surplus honey commences, and you will not have to worry yourself about overstocking.

This is something that requires long experience, for our seasons are so changeable that it cannot be proven with a few bees in two or three summers. I might have 200 or 300 colonies in a yard this summer, and they give me a fine surplus; next summer I might have only fifty colonies in the same yard, and get no surplus whatever. All that would be proven would be that one season was much better

than the other. Too many people are inclined to jump at conclusions, and take this and that for granted, when they have no positive proof. I have had hundreds of colonies starving when the roadside and fields were white with clover, and in three days they would be getting honey faster than we could give them room to store it.

CONDITIONS NECESSARY FOR A HONEY-FLOW.

I think our honey harvests depend almost wholly upon certain conditions of the atmosphere. Give me a hot, damp summer, when we have frequent thunder and lightning, with most of the showers going around us, and the flowers will fairly *rain* honey; but with cold, cloudy, windy weather, bees will get no honey, even if hives are *five miles apart.*

WEATHER CONDITIONS, NOT SIZE OF APIARY, DECIDE THE CROP.

During last August, while our buckwheat was in bloom, we had very cold, wet, disagreeable weather, eleven days at one time, and the bees got little or nothing, but, as soon as it began to warm up again they got honey very fast—I think it is the same all over.

My oldest son spent three winters in Cuba with Osborn, prior to the outbreak of the Spanish-American war. Osborn had, at that time, perhaps the largest apiary in the world. When the weather was all right his bees gathered honey faster than it could be extracted with a 24-frame extractor run by steam, then, as soon as the wind would get into the north, and it became cold and cloudy, there was no honey in the flowers, and the bees were ready to rob anything they could get at. Osborn was a man of wide experience, and had studied the subject all the way from a small apiary to one of nearly one thousand colonies, and, like myself, was very doubtful about overstocking a fairly good location in a good season; and we all know that, with poor seasons, our surplus honey amounts to little or nothing. With due respect for all those who differ from me upon this important subject, I bring this article to a close.

DELANSON, N. Y., Feb. 15, 1904.

Editorial

EIGHT EXTRA PAGES this month. In giving these I also give thanks to the advertisers who made them necessary.

MR. T. F. BINGHAM, of Farwell, Michigan, writes me that his bees in a cellar (built like a cistern) are wintering perfectly.

THIS ISSUE of the Review will go to hundreds of bee-keepers who are not subscribers. To such I would say that it will probably be to our mutual advantage if they will read pages 94, 95 and 96.

THE NORTHERN MICHIGAN Bee-Keepers' Association will hold its annual convention March 30th and 31st at Montague Hall, 127 Front St., Traverse City, Michigan. A. I. Root and the editor of the Review expect to be present.

OFFICERS elected at the last Michigan State Bee-Keepers' convention are as follows: President, W. Z. Hutchinson, Flint; Vice-President, Elmore Hunt, Bell Branch; Secretary, E. B. Tyrrell, Davison; Treasurer, A. D. D. Wood, Lansing.

SIX-PENNY *casing*, not *finishing*, nails are what Mr. Tyrell uses for supporting the frames in his hives. Finishing nails are smaller than casing nails.

ST. LOUIS has been chosen as the place for holding the next meeting of the National Bee-Keepers' Association, and the time will be about the first of October. I consider the time and place well chosen. We will all wish to attend the World's Fair, rates will be low, and the meeting will come after the busy work of the season is past. It is quite likely that representatives from other countries will be present, and that the meeting will be such as to almost merit the name of International.

THE ROCKY MOUNTAIN BEE JOURNAL has raised the price to one dollar a year, and promises to make the paper enough better to correspond with the raise in price. A pretty hard proposition, Bro. Morehouse, to make your paper twice as good as it has been, but maybe you can do it. Bro. Morehouse has found, as I think all will find who enter the field of apicultural journalism, that, unless it is in connection with the supply business, it is impossible to furnish a good journal, even monthly, for less than one dollar a year. Class journals must, of necessity, be higher in price than those of a general character, because there are fewer people interested in them, and the circulation must be limited. A bee journal published in connection with a supply business can, of course, be published at a lower price, as, in one sense, it is a big advertisement for the firm that publishes it. The only hope for a bee journal, pure and simple, is to make itself so good and so valuable that bee-keepers *must* have it, even if the price is a little higher than that of general newspapers and magazines.

BRIGHTENING UP THE ADVERTISING PAGES.

For several months I have felt that the advertising pages of the Review had been a trifle neglected. Mr. Hartshorn has also been reminding me that the advertisements, or some of them, ought to be re-set, and made more modern. Finally, the temptation to do the work with my own fingers became so strong that I sent away for some new type and borders, and for the last two weeks, or more, I have spent a part of each day fairly reveling among the type. Some of the advertisements I have worked over until they seem to me almost like my own children. Please read these advertisements, patronize the advertisers, tell them you saw their advertisement in the Review, and you will do us all a favor.

THE DATE OF THE REVIEW.

As a rule, the last form of the Review is printed about the 10th of the month. After this, comes the folding, stitching, trimming and wrapping up for the mail. By the time it reaches its readers it is about the middle of the month—perhaps a little later than that in some of the more distant States. Being dated the 10th, and not reaching its readers until from the 15th to the 20th, gives the impression that it is late—that it is behind the times. The fact that most of the monthly magazines are printed, and even reach their readers, ahead of their date, helps to give this impression about the Review. Occasionally I get a letter of complaint, or criticism, saying that about the only fault to find with the Review is that it is always from a week to ten days late. One man who, by mistake, had been sent a circular soliciting his subscription, after he had already subscribed, was quite indignant—said I "better use some of my energy in getting the Review out on time, instead of trying to get more

subscribers." I find, also, that many readers have not even noticed that it has been dated the 10th, instead of the 1st, as do the other monthlies. Considering all this, I have changed the date to the 15th, in order that the date may more perfectly fit the existing conditions. The Review is expected to reach its readers not far from the middle of the month, and this time is chosen that it may come at a time when they are not receiving the usual grist of magazines that put in their appearance about the first of the month.

THE METHOD OF FORETELLING SWARMING IS TO BE PATENTED.

Last month I explained that there was a New York bee-keeper who had a method of telling, without opening the hive, when a colony was making preparations for swarming, and that he would publish it if enough bee-keepers would pay him a small sum each. The reason for taking this course was that he considered the idea as unpatentable. Since his interview with me he has been consulting a patent attorney who has assured him that the greater part of his arrangement is patentable, enough so that no one could use it without infringing the patent, and he has decided to patent the plan and sell rights for its use. As soon as a patent has been granted, the device will be described in the Review and rights offered for sale.

GUS DITTMER'S FACTORY AND OFFICE IS BURNED—HELP AN UNFORTUNATE COMRADE.

On the 20th of February the factory and office of Gus Dittmer, of Augusta, Wisconsin, went up in smoke. Besides the loss of tools and machinery, there were burned about 6,000 pounds of foundation and 2,000 pounds of wax. The loss of the office with its papers, mailing list, addresses, orders, etc., together with the mail that came in during the morning of that day, brings a great annoyance. Fortunately, the warehouse, containing two carloads of goods did not burn, and Mr. Dittmer can fill orders promptly, even now, for anything except foundation. He he has bought a portion of the old high school building, which stood across the street, and expects to be running again, making foundation, by the last of this month.

Now then, Mr. Dittmer is not asking for charity, but it would be of great help to him just now if those who are owing him would remit promptly. A dollar will be worth two dollars in two or three months from now. He needs orders. He needs wax. I think there is no other dealer or manufacturer who will find the least bit of fault if, just at present, Mr. Dittmer is given a little preference in the way of orders. Anything in this line would be appreciated—shipments of wax will be especially welcome, and the highest price will be paid. Another thing, if you have sent Mr. Dittmer an order, or written him any letter from which you have received no answer, write and tell him about it, for, you must remember, his office and contents were completely destroyed. This notice is written with mingled feelings of sorrow and pleasure—regret that there should be any necessity for such a notice, and hope that its publication may be the means of helping Bro. Dittmer in picking up the severed threads of his business.

MEMORIES OF THE WISCONSIN AND OTHER POEMS, BY HARRY LATHROP.

At last bee-keepers have been honored by the publication of a book of poems, written by one of their number, Harry Lathrop, of Monroe, Wisconsin. The poems are not those of deep, doubtful, hidden meanings, but mostly of

descriptive verse, telling of winding rivers; pebbly beaches; sunlit, leafy dells; old mills; old red bridges—let me give a list of the poems: Memories of the Wisconsin, The River, The Eagles, The Fish, The Old Home, The Outing, POO-eee, Mirror Lake, The Kansas Emigrants of 1856, To a Babe, The Man Who Laughs, Spring Loves, Echoes of Boyhood, "J. B. S.," Church Service at Mineral Point, The Little Sisters, Death of the Brakeman, The Evening Camp, A Bad Nose, Wisconsin Winter, Against One-Man Rule in Politics, The Country Store, Reunion Greeting, Lines on the Death of my Cousin's Young Daughter, "Hattie B.," Admonition, The Dandelions, The Old Mill, Summer Thoughts, Autumn, A Gloomy Day, The Bridge, A Famous Cow, The Milkmaid, The Auctioneer, Honey Plants, Honey, The Bees, Co-operation, Linden Blossoms, Epitaph, The Pierced Rock, Bee-Keeper's Song, and the Village of Hanover.

There is an excellent portrait of the author, and a dozen other illustrations, mostly full-page, illustrative of the verses. The book is printed on heavy, Cameo Plate paper, and bound in a very heavy, tough paper of creamy, wavy make, dashed here and there with little flakes of reddish brown, and the lettering is in gilt with a border of soft brown. There are between 60 and 70 pages, and the price is 50 cents. It can be ordered of the author, who is now at Bridgeport, Wisconsin, or the orders may be sent to the Review office. I will send the Review one year and the book for only $1.25.

THE LESSON OF THE PAST WINTER.

Years ago the losses were heavy in the wintering of bees; then came a period of a dozen or more years in which bees wintered well, and I fear that this long period of success lulled many bee-keepers into a fancied security, bordering upon carelessness. As a result, the losses in the Northern States, particularly among bees wintered out of doors, have been unusually heavy. Or course, the winter has been one of unusual severity. In my 50-odd years of life I have no remembrance of more snow and cold weather. The temperature has been low, and continued so for a long time. To endure such conditions, colonies must be populous, well-protected, and well-supplied with good stores. If out of doors, each colony must be entirely surrounded with several inches of dry sawdust or chaff, and there must be opportunity for the moisture to pass off through the packing overhead, and ventilation above the packing. With such winters as that just passed, I think no protection is equal to that furnished by a good cellar, or special repository, beyond the reach of the outside temperature. In an open winter, with its frequent opportunities for flight, bees out of doors, if well protected, have an advantage over those in a cellar, but, in a severe winter, the reverse is true, while in a warm winter the bees in a good cellar will winter just as well as they will in a cold winter. In cellar-wintering we are master of the conditions, we can have them the same every year, while out of doors we have no control of the temperature—of its severity or duration. Bees in the open air are compelled to consume large quantities of honey in keeping up the animal heat, their intestines become overloaded, and we all know the results. In a warm cellar not more than half as much honey is consumed, hence the ability to withstand a longer period of confinement without injury. There is no need to enlarge on these points, as all well-informed bee-keepers are familiar with them, and the moral is to winter bees in-doors in those latitudes where winters are likely to be as severe as the one just past here in the North.

Those who have lost bees should not be discouraged, but, instead, go to work and build up again; at the same time making a resolve, deep, long and wide, never to be again caught as they have this time. Don't take chances that can be avoided. Don't "hope the coming winter will be a mild one." Instead, make every preparation for a winter like last winter. If it doesn't come you will be just as well off—if it does, you will be much better off.

There is no industry in which a man can so rapidly recover his loss as in that of bee-keeping. The hives and combs are left, and only one season, sometimes less, is required to re-stock them. I have never forgotten that I one year, by the use of foundation and plenty of queens, built up three colonies to 33, and wintered them successfully. When cholera gets into a herd of swine and sweeps it away, it is a dead loss. The same when floods drown out crops. When bees die in winter, as I have already explained, the hives and combs are left, and it takes but a short time to re-stock them.

There is still another point, I have always noticed that a severe winter, when there was plenty of snow and cold, was usually followed by a good honey season. The man who winters his bees then has the advantage of producing a big crop at a time when prices are likely to be high. We may talk and advise as much as we please, there will always be careless bee-keepers who neglect their bees; so, learn to winter your bees *every winter*. You can do it. If the loss of the past winter spurs you on to take better care of your bees hereafter, so as to avoid future loss, it may have been a blessing in disguise.

Cellar-wintering is the thing for this Northern climate. There is no question of it. Bees *can* be wintered out of doors, even in Northern Michigan, but the cellar is much safer and more economical.

HOW SHALL THE MEMBERS OF A BEE-KEEPERS' ASSOCIATION BE INDUCED TO REMAIN MEMBERS YEAR AFTER YEAR?

For years the meeting of the National Association was simply a local gathering of bee-keepers in that part of the country in which the convention was held. A few of the more prominent bee-keepers, the editors of some of the journals, and a few supply-dealers, also attended, but the great mass of each convention lived within 100 miles of the place of meeting. These men came in, paid their dues, then the next year they dropped out, and a new set came in from a new locality and took their places. There was no permanency of membership, and but little permanent good accomplished. Finally some motives, some *selfish* motives, were found for inducing members to remain as members, even if they did not attend the annual convention once in ten years—or perhaps never. The members were given help when unjustly prosecuted; the money was used to prosecute adulterators of honey, to aid in securing desirable legislation, and the like. Good, substantial inducements were offered a bee-keeper to become a member, and to *remain* a member. Since then the Association has flourished as a green bay tree, and become a power for good.

The same trouble, in holding membership, applies to local or State Associations. We now have one inducement to offer a member of a local association, and that is a membership in the National at one-half what it would cost him to join the National direct. But we need something more than this, and the Michigan State Association has discussed this subject quite extensively during the last two conventions that it has held. Two plans have been favored, one that of buying supplies as an Association,

thus getting them at wholesale; the other that of advertising the honey of its members, thus helping them to make sales. As being easier to put into execution, it was voted at the last meeting to use what money there was in the treasury in adopting the latter plan—helping the members to sell their honey. About the first of August each member is to report to the Secretary the number of pounds of honey he has, whether comb or extracted, the quality, how put up, etc. The secretary will tabulate these, giving the names and addresses of the members, the amount and kind of honey appearing opposite each respective name and address. This will all be printed on a neat folder, giving the advantages of honey as a food, some receipts for cooking with honey etc. Then an advertisement will be inserted among the "liners" of some daily paper having a large circulation in the State, saying that the names and addresses of the members of the State Association of the bee-keepers, together with the amounts and kinds of honey they have for sale, will be sent free to any address, thus enabling consumers to buy honey direct from the producer. Upon receipt of responses from the advertising, the Secretary will mail the folders. Some of the members of the Association often wish to buy honey, instead of selling, and this list will be a help to them in that respect. Some of the supply-dealers have offered to help out a little by putting advertisements in the folder. If there are any bee-keepers in Michigan who are not members of the State Association, who wish to become such, let them send their dollar to the Secretary, Mr. E. B. Tyrrell, Davison, Michigan. This will not only make them members of the State Association, but also of the National, and, in addition, as just explained, their names and addresses, with the amount of honey they have for sale, will go out on the folder. The publication of the names and addresses, together with the amount of honey produced, as published in the report of the General Manager of the National Association, helped many of the members in disposing of their crops, and it is expected that this plan will act in a similar way, with this addition, that special pains will be taken to get the list into the hands of actual consumers.

EXTRACTED DEPARTMENT.

SHOOK-SWARMING.

Shaking two big Colonies into one Hive. Something About the Building of Drone Comb.

When bees build their own combs without the use of foundation, except as starters, the question of drone comb is most important. Before they have swarmed there is no question that they build it for the purpose of rearing drones. In the earlier days of my bee-keeping I once took a comb or two of bees and brood from the center of each of about 25 strong colonies, making up some five or six colonies from these combs, giving each a queen.

This was just before swarming-time, and I thought that these strong colonies could spare these extra combs just as well as not, that it would retard swarming a few days, and allow them to get a little better start in the sections. The colonies thus formed were a success, but, as I used starters only in the frames, every frame put in the place of a removed comb, was filled *solid full* of drone comb, and the combs

filled with drone brood. Some of the colonies swarmed before they had completed the drone combs that they were building, but when the swarms were hived in empty brood-nests, empty except starters in the frames, every swarm built *worker comb*. Bees that were building drone comb in the parent hive in the morning, were building worker comb in the afternoon, in the new hive. In the old hive there would soon be young queens to be fertilized, hence, the need of drones. In the new hive there was a fertile, laying queen, and no probability of rearing any more young queens that year.

If the bees have an old queen, and the bees get the start of her in comb-building, so that it is used to store honey in, I have found them building drone or store-comb for this purpose. In an article published in Gleanings of Dec. 15th, 1903, I find that Mr. M. A. Gill, of Colorado, does not take exactly the latter view, viz., that bees build drone comb for store comb, and, in giving his views, he incidentally mentions how he sometimes shakes two colonies into one, when he cares more for honey than for increase. The way in which he manages this seems to me the most valuable information that he gives, but, in order to make it all plain, I will copy his entire article. He says:

Mr. Root:—I see quite often that some writer advises against the use of starters, claiming that it can not be done without filling the hives with worthless drone combs. Now, I practice forced swarming; but when I make a swarm I make a rousing big one, and usually hang over one or two frames from the parent hive that are filled with honey, larvæ and eggs, so the queen does not get any immediate relief from those combs. I am not one of those who believe that bees *prefer* to store honey in drone comb, and I think the facts will bear me out.

Who has not noticed that any time before swarming, and after a colony has become quite prosperous, if a frame with starter only is given either at the side or in the center of the cluster, the bees will almost invariably build drone comb? It is not because the bees need the room to store honey, but it is because they, true to instinct, want drones, as they intend, perhaps, to swarm later on. The time is ripe for them to do so, and they will build at least three-fifths drone comb in all the room you will allow them to have at this time. They do it because they want drones, not because they prefer it for storage purposes. Now, take this same colony that is building so much drone comb. It may, perhaps, have cell cups, with eggs in (but it matters not if it doesn't), and shake it into an empty hive; hang in one frame of eggs and larvæ, and hang in frames with only starters, and see what the bees will do.

These bees have swarmed, and no one knows it better than they do. They have a fertile queen, hence no use for drones; but they want workers for the season's work, and the same bees that were so persistently building drone comb last week are now just as persistently building worker comb, and will continue to if the flow is good, until the body of the hive is full of comb, which it will be in from eight to ten days, and 95 per cent will be worker comb; and if the queen is a good one, from five to seven of these combs will be well filled with brood. The time is ripe for raising workers, just as last week was for raising drones. Of course, this swarm was given the super off from the old colony at the time of making that was full of bees, bait-combs, and full starters; so if they needed storage room they had it.

Friend Morrison, in criticising my plan, tells how much better I would like his plan of using a half-depth story filled with wired foundation; then, he says, in four or five days they are ready for a super. I will ask Mr. Morrison to go with me while I make a swarm, and bring along his little half story to put the swarm in.

Here is this pair of hives. They are eight-frame hives, full of bees from the bottom-board to the top of the super, and I will warrant them to have fifteen frames of brood. One colony is very nearly ready to swarm, and the other has eggs in the cell cups. I am going to shake all the bees from both colonies into one, and take the queen from this one with one frame of brood to give the new swarm. Say, Mr. Morrison, you will have to set that little "rig-

gin'' of yours to one side. It's too much like "baby bee-keeping" for me, for it won't hold half of these bees. Hand me that eight-frame hive with a full set of starters only, and remember there are two supers full of bees at work in the sections to go on top of this; yet you see my swarm is ready for the super now instead of waiting three or four days. When I come here again in six days it will need the third super.

Say, Mr. Morrison, isn't that swarm a whopper? Do you know I think there are 75,000 bees? Yes, they will be all settled down to business like a natural swarm. You see they got well mixed and daubed when I shook them. No, there is no danger of their going off. They won't go without a queen, and she can't go unless she goes on foot, as she is clipped.

You see, I have set one of those old hives of brood on top of the other, right behind where the pair sat, and facing the other way. When I come again in six days I will shake a lot more bees into this one from those old combs, and face it around here where it belongs. Next time I come around I will work all the brood into one hive, and put on a super; then I have the other hive to use somewhere else. No danger of this one swarming, and this colony will be just as good as Jumbo there the last half of July and all of August, at which time of the year our best surplus-honey season comes.

No, I don't do this with all my bees, but I do it with a great many when I don't want *any* increase.

BEE PARALYSIS.

Some Experience Pointing to the Value of Sulphur as a Cure.

Bee Paralysis has never done very much damage in the Northern States, but in the South it sometimes causes as much havoc as does foul brood. Exactly what causes the disease, and *how* it is communicated from colony to colony, if it *is* so communicated, has not been determiued. Salt and sulphur have both been recommended as a remedy, with the odds, perhaps, in favor of the latter. I think the strongest evidence I have ever seen of the efficacy of sulphur, was that given by Mr. O. O. Poppleton in an article that he furnished the American Bee-Keeper last August. In this article Mr. Poppleton says:

I promised some time ago that as soon as I knew the result of certain experiments not then finished, I would write out some of my experiences with bee paralysis in my apiary.

The disease is more widespread and serious than most bee-keepers realize. Twice within the last twenty years it has lessened the season's receipts from my apiary over twenty-five per cent., entailing a loss of about fifteen thousand pounds of honey and quite a number of colonies of bees. There is more or less of it every year.

The disease itself is exceedingly erratic—comes and goes without any apparent cause, and without strictly following any rule. Colonies in perfect health will sometimes be attacked suddenly, and in a very short time be reduced to nuclei. At other times a diseased colony will suddenly recover without any known cause. For this no rule can be made by experiments with any one or even a few colonies. And now, after a personal experience with over two hundred diseased colonies, I more than ever realize how little we really know of the nature, cause, prevention or cure of the disease. While I am satisfied that it is to a limited extent contagious, I do not know exactly how the contagion is communicated. While in Washington, just after the Philadelphia convention, Mr. Benton introduced me to Dr. Howard, United States Entomologist, and I had a short talk with him about his division making a scientific investigation of the disease. He asked me to call on him in his office and talk the matter over; but when I did so he was out. I was disappointed, as I hoped through him to get some real, definite knowledge of the disease and how to fight it. I still hope that some practical scientist will do this work for us.

I have not yet learned how the contagion, if any, is communicated, but I think through dead or diseased bees only. Last season I made some experiments to learn whether combs, honey or brood carried it, by taking away all the brood from what diseased

colonies I had and giving them to certain nuclei. I built up six nuclei by giving them brood from diseased colonies, and so far (nearly a year afterwards) only one of these colonies has shown any signs of the disease.

As several other colonies have taken the disease this spring, it is not very likely that this one took it because of these combs of brood and honey. That five out of six failed to take the disease after nearly a year has passed, looks as though it will be as safe to use all combs of either honey or brood. This simplifies the problem of what to do with diseased colonies and saves the loss of combs and brood as in cases of foul-brood.

Several years ago nearly or quite one-third of my apiary was diseased and the prospect was that I might have to abandon bee-keeping because of it, after nearly half of the diseased colonies had died. Experimenting with all the methods of cure I could hear of, the use of sulphur proved the only method of any value. This I applied to three or four colonies at a time, then in a few days to a few more. Then, after an interval to more and so on, until all had been treated. The result was the entire cure of each colony treated in the order of their treatment, while not a colony in the yard recovered until a certain time after treatment, showing conclusively that it was the treatment which affected a cure. I have used the same method more or less since then, but not to so great an extent. Out of some forty or fifty altogether which I have treated, all were cured by one treatment except three which required a second treatment each. As many have reported failures in treating diseased colonies with sulphur, it looks as though they must have misapplied the sulphur in some way, and I think it will be best to give in detail the way I have used it.

For reasons I will give later on in this, I always go to the colony I am to treat, during the day, and take away all the combs that contain brood, or, at least, unsealed brood or eggs, and give to some other colony; then in the evening, as soon as the bees have quit work and all are at home, I proceed to dust sulphur over every comb in the hive and, if possible, on every bee in the hive. I never measure the exact amount of sulphur used, but presume about a tablespoonful to every three or four combs in the hive. I do the work by taking what sulphur I can hold between my thumb and first two fingers and dusting same over first one side and then the other of each comb, bees and all; also over any collection of bees there may be off the combs in any part of the hive. My aim is to have a thin dusting of the sulphur over every bee and every comb in the hive. The thinner the dusting the better so it reaches everything in the hive. I tried using an insect powder gun, but couldn't do as good work as I could with my fingers. The next day after doing this dusting, I carry back to the hives the same number of combs and brood as I had taken away.

The reason for taking away brood before dusting the combs, and returning again afterwards, is because the dusting of combs not only kills all the unsealed brood in the combs, but ruins these same combs for brood-raising. If such combs are left in the hive, all eggs deposited in them will hatch out all right, but the larvae will die as soon as hatched. By giving these same combs to strong colonies, they will clean them out and use them all right, and no loss of combs will result.

For a week after dusting a diseased colony with sulphur, fully as many or more bees will be dying as before the dusting; and this fact may lead some to think the "cure" is not a cure. It will take a couple of weeks before one can tell whether the treated colony is cured or not.

Diseased colonies are usually very weak in number after being cured, and are of very little, if any more, value than a good nucleus. I have doubts whether it really pays to cure them except such as can be treated very early in the season, before nuclei can be profitably made. For the last year I have adopted the plan of curing such colonies as needed it as early as the middle of February, or even earlier; after that I make as many nuclei as is needed for the purpose, and as soon as they have a young laying queen I take away the combs from these nuclei, thus giving the brood to these nuclei, thus building up into good colonies and destroy all the diseased bees with sulphur fumes.

In changing combs from diseased to other colonies I am very particular to know that each comb is aboslutely free from bees, especially of dead ones that may be in some empty cells. Diseased bees quite often crawl into empty cells to die.

iven Foundation Press

FOR SALE

It is acknowledged by all who have used comb undation made on the Given press, that such undation has no superior. It is softer than ther foundation, and more quickly accepted nd worked by the bees. The late Dr. A. B. ason had one of these presses and used it with reat satisfaction; taking excellent care of it, so at it is practically as good as new. His family as no use for the press, and would be glad to ell it. Any reasonable offer would be consider-d.

Address 3-04-tf

ELLIS E. MASON,
718 Walnut St. Toledo, Ohio

GEORGIA QUEENS.

"The Best is None Too Good."

We are Booking orders now for Hall's Strains of Superior, Golden, Improved, Five-Banded, Leather Colored, and Carniolan Stock. Purely Mated queens, $1.25 each, or six for $6.00; twelve for $10 00. Untested, either strain, $1 00 each, or six for $5.00; twelve for $9 00. Tested $1.50; Select $3 00. Best $5 00 Safe arrival and satisfaction guaranteed. Write for Descriptive Circular.

T S. HALL,
3-04-1t Jasper, Pickins Co , Georgia.

NOT IN THE TRUST.

The oldest bee supply store in the East. Sells best goods at former prices. Send for catalog. Successor to A. J. King.

J. H. M. COOK, New York City
3-04-4t 70 Cortlandt St.

SPECIAL

FOR

MARCH AND APRIL

No. 1 Sections, $4.00; No. 2, $3.50, Plain Section 25 cts less. Dovetailed Hives, 8-frame, 1½ Story, in lots of 10, $1.25 each; lots of 20, $1.15 each; lots of 50, $1.10, 10-frame for 15 cts more per hive. The Poor Man's Hive, rabbeted, $1.00. Foundation, Smokers, Frames, etc., in stock. Price list free.

W. D. SOPER,
3-04-tf R. F. D. No. 3, Jackson, Mich

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Beekeepers' Supplies

and Queens for sale by W. B. VAUGHAN
Newburg, N. Y.
3-04-3t 45 Smith, St.

Pagé & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t



QUIRIN The Queen BREEDER

Has a strain of Italian bees in which prolificness and honey-gathering are developed to a high degree. His location furnishes a continuous honey-flow throughout the season, while the broad, extended prairie surrounding his yard allows of no undesirable drones in bee-trees. He expects to keep on hand from 600 to 1,200 queens, and be able to fill orders by return mail, guaranteeing safe arrival, at the following prices ;—

	Before July			After July 1st		
	One	Six	Twelve	One	Six	Twelve
Select	$1.00	$5.00	$9.00	.75	$4.00	$7.00
Tested	1.50	8.00	1 .00	1.00	5.00	9.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00
Breeders	4.00			3.00	15.00	
Straight five-banded breeders	6.00			5.00		
Two-frame Nucleus, no queen,	2.50	14.00	25.00	2.25	12.00	22.00
Full colony, on eight frames,	6.00	30.00		4.00	22.00	

Send for Circular giving many particulars that lack of space forbids mention here. ***FOLDING CARTONS*** at only $4.00 M, so long as present stock lasts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

We Outgrew

Our old quarters. The demands of a rapidly increasing business have moved us. We are now located at 51 Walnut St. We have increased facilities, and a new, well-supplied, up-to-date stock—everything that bee-keepers demand. The best bee-supplies in America. Special discounts for early orders. Send for catalog. Queen Bees and Nuclei in season. Correspondence solicited.

The Fred W. Muth Company,

(We're successors to nobody, and nobody's successor to us.)

51 Walnut St., Cincinnati, Ohio.

3-04-8t

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100 sheets of letter paper, 6 x 9 inches in size, of the heaviest, finest quality, with your name, business and address neatly printed at the top and the sheets put up in a neat pad, and

100 white-wove high-cut envelopes, of the best quality, with your name, address and business, printed on the upper left hand corner, will be sent by mail, prepaid, for only

$1.25, or the Review one year, and this batch of stationery for only $2.00.

W. Z. Hutchinson,

Flint, Mich.

Prothero & Arnold, DuBois

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Are handling *Root's Goods* in car loads, at factory prices—wholesale and retail. The best of shipping facilities.

-04-4t Please mention the Review.

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AND

Stanley Incubators

Full Colony, with tested queen, in 10-frome, L. hive, $5.00.

Nucleus, on three L. frames, $2.00. Price of queen to be added.

Queens, warranted, 75 cts each, or $7.00 a dozen; tested, $1.25 each, or $10.00 a dozen; best breeding queens, $2.00 to $3.00 each.

Incubator and Brooder (patented), best on the market for rearing and caring for queens, complete, $5.00.

Queen Cells, 100 mounted, with sample of Cylinder cage, sent postpaid for 75 cts.

ARTHUR STANLEY,

DIXON, ILLINOIS.

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The Comb-Honey Hive

Points of Excellence

Quality—You can produce better-looking honey.
Quantity—You can produce more of it.
Price—You can get more per pound for it.

Root's Goods Sold in Michigan by M. H. HUNT & SON, Send For Catalog

The Danz Book of "FACTS ABOUT BEES" tells all about it, and what successful bee-keepers say in favor of it. We want to send it to you,

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Please send to my address "Facts About Bees"

Name.....

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Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

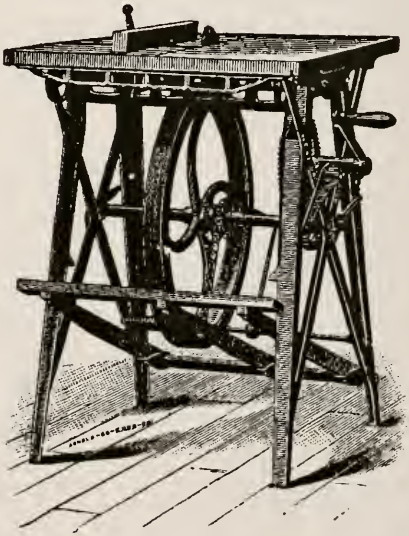
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

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7-02-24t



TWENTY YEARS

OF

Careful Breeding

In regard to the origin of my strain of Italians, I would say that they were developed by selection and crossing. The first Italian queen that I ever possessed was of the Thos. G. Newman stock. The next was of A. I. Root's red-clover stock; purchased in 1881 In 1882, I purchased one of friend Root's best imported queens, for which I paid $6 00. She was a valuable queen, indeed; producing workers which were hardy and regular hustlers for gathering honey. I stocked my apiary with her daughters, saving only a few queens of the other stock to furnish drones. This gave me a direct cross, which, I think, is the secret of my success.

In 1883 I found one of the daughters of the Root imported queen far out-stripping everything in the yard in the way of honey-gathering and comb-building; and her bees capped their honey so white that it made it appear the most beautiful comb honey I ever saw. In this queen I had an acquisition. I used her as a breeding queen. Her bees were not as handsome as the Newman stock; but beautiful HONEY attracted my eye and pocketbook more than fancy bees.

If you wish for a strain of bees that are really "Superior," and at a much lower price than sold by Mr. Hutchinson, send for the handsomest queen circular that was ever printed.

J. P. MOORE

Morgan, Kentucky

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	56
Ala.. .	80	La.....	38	Oregon..	104
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak....	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.....	130	W. Va....	172
Iowa..	800	N. H. ...	158	Wash.....	128
				Wis.....	625

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The Best and

Finest Fruits,

Vegetables and Flowers may be had by planting our Trees, Seeds and Bulbs. We make a specialty of improving and testing new fruits, vegetables and flowers. We have a full assortment of the best and most reliable old Standard Varieties. We grow and test the most promising ornamental plants, shrubs and trees and reccommend only the best varieties.

Special Seed Offer.

For 10c and 10 addresses of people who buy seeds, trees, bulbs, greenhouse plants, etc., we will send 10 packets of the earliest known varieties of cabbage, tomato, beet, raddish and lettuce. Two best varieties of each. ***Ten packets for 10c.***

We make a specialty of ***Northern Grown Seed Potatoes.***

Send us list of nursery stock, shrubery plants, seed potatoes, etc., needed and we will give you our lowest prices. We are always pleased to answer questions about fruits, flowers or vegetables. Send for our catalog.

T. C. FURNAS & CO.
Nurserymen, Florist and Seedsmen.
1-04-3t Indianapolis, Ind

The Beekeepers REVIEW

For 1904

THE Review never had more subscribers, better correspondents, greater mechanical facilities, or a more experienced editor; in short, it was never more fully equipped, than at present, for helping bee-keepers. It will use all of these advantages the present year in taking up and discussing two of

The Most Important Subjects

connected with bee-keeping, viz., the production of large quantities of honey, cheaply, and the selling of it at a high price. The first few issues of this year will be especially devoted to the discussion of the first-mentioned topic, then, in July or August, marketing will be taken up and continued through the year. I do not mean that other important matters will not be touched upon, but that special attention will be given to these two.

For instance, last year, Mr. F. E. Atwater, of Boise, Idaho, with only one helper,

Managed 11 Yards

scattered from seven to eighteen miles from home, and in the January Review he had a long article describing the hives, implements, and methods, that enables him to accomplish this feat.

Mr. E. D. Townsend of Remus, Michigan, is

The Most Extensiv Apiarist

in this State; managing out-apiari with the least possible amount of labo much of it unskilled at that, and ma ing money out of the business, and is telling the readers of the Revie "how he does it." Three articl from his pen have already appeare and there are three more on han More will follow on marketing a wintering. All of his writings a practical; like the one in this issu which shows how to have a goo commodious, cheap house, at each ou apiary, yet be able to move it with trouble if it becomes necessary move the apiary.

Another correspondent, over the fin ing of which the Review is congrat lating itself, is Mr. E. W. Alexande of Delanson, New York. He has ha nearly

Fifty Long Years o Experience

with bees. His locks are white, b his eyes are bright, his step elasti and he still has the fire and enthus asm of youth. The first of a series articles from his pen appears in th issue. His views on overstocking a certainly radical, and it is possibl that they are not applicable in eve locality, but some of the ideas that

advances, and the experience that he gives, are certainly worthy of consideration. Next month he will tell how to make the most out of weak colonies in spring, and how, sometimes it is possible, by the right kind of feeding in the spring, to change what would have been a season of failure into one of profit. A simple, inexpensive, convenient method of feeding will be described. The next month he will describe his tank aud methods for disinfecting combs from colonies infected with black brood. By his thoroughness, he has been successful on a large scale.

The beginning and the end of the honey season are

Critical Points.

To induce the bees to promptly take possession of the supers, to wind up the season with nearly all of the sections completed, yet lose none of the honey that the bees can store, are most desirable accomplishments; and James A. Green, of Grand Junction, Colorado, has sent me an article telling how all of these things may be managed by what he calls his "Combination System." It will appear in the next issue of the Review.

Mr. M. A. Gill, of Longmont, Colorado, last year, with the assistance of his wife, and one other helper, managed 1,100 colonies, increased them to 1,600, and shipped

Two Carloads of Comb Honey.

Within the next month or two the Review will publish an article from Mr. Gill in which he tells exactly how he manages—particularly in regard to the swarming-problem.

Sold 20,000 lbs.

When it comes to the marketing-question, I have on hand an article by Mr. H. C. Ahlers, of West Bend, Wisconsin, in which he tells in detail how he has built up a trade in selling extracted honey direct to consumers, in which he last year sold 20,000 pounds, and most of it at *12 cents a pound!*

The Home-Market

is something that many of us have neglected as too small to be worth noticing, especially if it is only a small town, but our energetic General Manager of the National Association, Mr. N. E. France of Platteville, Wisconsin, manages to sell about 8,000 pounds a year, if I remember aright, in his little home-city, of only 4,000 inhabitants. He does no peddling, it is all sold at the groceries, butcher shops, and the like, and he so manages as to get eight cents a pound for it. What that management is, how the honey is put up, the package, in fact the whole *modus operandi* will be described by Mr. France in the Review, long ere the time comes to put this year's crop on the market.

A Honey-Route,

in something the same line as a milkman has a route, has been inaugurated and put in practice for several years by Mr. C. F. Smith, of Cheboygan, Michigan. There is no peddling about it. On certain days, except during the busy time of the year with the bees, Mr. Smith goes over a certain route, calling at certain houses and delivering a certain amount of honey. In this way he sells all of his own extracted honey at 13 cents a pound, and then buys and sells thousands of pounds besides. How the honey is put up, how the route was established, how he knows at which houses to call, and how much honey to bring, etc., will be told to the readers of the Review in an article that Mr. Smith is now preparing with much care as to detail and helpfulness.

So much in the way of retailing honey, and we now come to the subject of selling honey direct to retail dealers, instead of sending it to commission merchants who, in turn, sell to the retailers. This is

A Big Field,

and one that has been little worked, but I have found a man who has had a lot of experience in this line, Mr. S. A. Niver, formerly of New York, but now of Chicago. For several years, quite a number of extensive bee-keepers near Gorton, New York, turned their crops of comb honey over to Mr. Niver, who graded and crated it, and then packed a case with samples, and went out as a "drummer," selling direct to the retail trade, going over the same ground more than once, taking orders and collecting for the honey. I have an article from Mr. Niver telling of his success. It is long, readable, full of humor, and of suggestions for some man to go and do likewise. Mr. Niver is now at work preparing an article on retailing honey to city customers.

The foregoing are only a few of the good things that are in store for the readers of the Review—these are given simply as samples. The prospects for

Making Money

in bee-keeping were never brighter for the man who will arouse himself, wake up to the changed conditions of things, and take advantage of the changes. One thing is certain, if you are a bee-keeping specialist, if bee-keeping is your *business*, you can't afford *not* to

Read the Review.

It will lead you, and encourage you, and fill you with ideas, and tell you how to do things—show you how to enlarge your business and *make money*.

Send $1.00 for the Review for 1904, and long ere the year is out you will admit that it was the most profitable investment you ever made.

W. Z. HUTCHINSON

Flint, Michigan

I Can Sell Goods Cheaper



Than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small, country town where labor is cheap; I have new, up-to-date, labor-saving machinery run by water-power—the cheapest power in the world. Not only will I sell goods cheaper but ***I Will Pay the Freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering,



W. H. Putnam, River Falls, Wis.

Low Freights

AND

QUICK DELIVERY.

The busy times for bee-keepers is almost here. If you have not yet ordered your goods, there is no time for delay. You can't wait now for some factory to make your goods, nor for long shipments by freight, with endless delays at transfer-points, while the bees are idle for needed sections, hives, foundation, or storage-room. You will find it to your advantage to order your goods from near home, of some dealer who has them on hand, and can ship them at once. By so doing you will not only get your goods promptly, but at a big saving in freight bills.

The A. I. ROOT CO.,

Medina, Ohio, has established agencies all over the country where standard goods are always in stock. The following are some of the more important

Agencies.

Vickery Bros., Evansville, Ind.
E. Grainger & Co,, Toronto, Ont.
Walter S. Pouder, Indianpolis, Ind.
Jno. Nebel & Son, High Hill, Mo.
Geo. E. Hilton, Fremont, Mich.
Prothero & Arnold, DuBois Penn.
M. H. Hunt & Son,
Bell Branch, Mich.
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Carl F. Buck, Augusta, Kansas
A. F. McAdams, Columbus Grove, O.
C. H. W. Weber, Cincinnati, Ohio
F. H. Farmer,
182 Friend St., Boston, Mass.
L. A. Watkins Mdse Co.,
Denver, Colorado

In addition to the foregoing there are hundreds who handle our goods in small lots. Besides this, we have the following

Branch - Houses.

Syracuse, N. Y.
Philadelphia, Penn., 10 Vine St.
Chicago, Ills., 144 East Erie St.
San Antonio, Texas,
438 W. Houston St.

Mechanic Falls, Maine
Havana, Cuba, San Ignacio 17
St. Paul, Minn., 1024 Miss. St.
Washington, D. C.,
1100 Md. Ave . S.W.

Send for a catalog, and buy of the nearest Agency or Dealer.

Bee-Keepers

It is a conceded fact that the bulk of the honey of the future is going to be produced in the irrigated portion of what is known as "Arid America." If you are interested in the progress of apiculture in this vast region, you should subscribe for the

Rocky Mountain Bee Journal,

a twenty-page monthly; price 50 cents per year.

This is now the only bee publication west of the Missouri river. We have several hundred eastern subscribers, and have still room for more. Write for free sample copy. Address

H. G. Morehouse
Boulder, Colo.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,
3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

"Your bees wont sting if you give them Lewis Goods"

Send for our new

Catalog **68** pages.

500 Agencies in the U. S.

The name

LEWIS

stands for the best in Bee-Keepers' Supplies.

G. B. Lewis Co.
Watertown, Wis.

THE

G. B. Lewis Co's

Dovetailed hives, sections, shipping cases, etc., at less than the factory's catalogue prices. Denver hives and shipping cases at still lower figures. Dadant's foundation. Bee-keepers west of the Missouri river can save money by buying from us. Our 48-page, illustrated catalogue, containing valuable information, to be had free. Write for it now. We pay the highest market price for beeswax.

The Colorado Honey Producers' Association.

1440 Market St. DENVER, COLO.

FAMILIAR NAMES.

It will interest you to read what Mrs. N. E. France, *wife of Gen'l Mgr. N. B. K. A.* and Emil Nebel, *of the firm John Nebel & Son* say of

YELLOWZONES

My Friend Dr. House:—Enclosed find $1.00 for Y Z. Please send them *very soon*, and excuse us for sending so often. Although I do not take them all myself I can not very well get along many weeks without them, and the children miss them when they are feeling badly, as well as I. Yellowzones have been of great value to myself and family.

Very sincerely yours,
Mrs. N. E. France.

Platteville, Wis.

Dear Doctor:—Find enclosed remittance for two large boxes Yellowzones. Have been buying them of you for 7 or 8 years and they are as effective as ever.

Yours truly,
Emil F. Nebel.

High Hill, Mo.

People like the above do not send their dollars several times a year, year after year, for a worthless—or even an *ordinary* remedy. *You know that.*

YELLOWZONES

are a remedy *Absolutely Unequaled* for general household use. You need them in your own house and I guarantee your money back *and Another Box* if not satisfied.

If you keep but One Remedy in the House it should be YELLOWZONES.

$1.00 per box of 150 Tablets.
Trial size 25 cents.

W. B. House, De Tour, Mich.

A Farm For You

ARE YOU SATISFIED AT HOME? Or do you wish to better yourself? You should investigate what the **San Joaquin Valley of California** has to offer hustlers. In that great valley is grown nine-tenths of the U. S. raisin crop, and millions of gallons of wine are made yearly. You can profitably raise almost everything there. Good farms at cheap prices. Low-rate colonist excursions in March and April on the Santa Fe. Write for pamphlets to Gen. Pass. Office, A. T. & S. F. Ry., Chicago.

California

Sections $3.00

I manufacture both the one- and the four-piece section and can give customers their choice at the same price. T one-piece is made of nice, white basswood, and sandpapered both sides. The four-piece is of hard, white poplar. T sections are 4¼ x 4¼ x 1⅞, and 1¾ or 7-to-the-foot.

My prices are as follows: 1,000 for $3.00; 2,000 for $5.7 5,000 for $14.00; 10,000 for $27.00. A special price will made to those who order 10,000 to 30,000 before last of Marc

I can also furnish ***Bees, Queens, and Bee-Keeper Supplies.*** Send for descriptive circular, and sample of se tion, and save money.

W. H. NORTON, Skowhegan, Main

Reference, Editor Review.

I understand that the Santa Fe will sell one-way colonist tickets to

California

during March and April at very low rates:

$33 *from Chicago and* **$25** *from Kansas City*

Please advise me full Particulars

Name.....

St. No......

City and State .....

Santa Fe

ALL THE WAY

Cut out this advertisment and mail to

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Marshfield, Wisconsin, makes a specialty of **Sections,** and they are the best in the market. Wisconsin basswood is the right kind for them. They also have a full line of **Bee - Supplies.** Write for free, Illustrated Catalog and Price List.

3-04-4t

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It Pays to send your orders a distance of 10,000 miles for your bee-supplies to R. H. Schmidt & Co. Send for new catalog today.

R. H. SCHMIDT & CO.

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Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3 00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

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We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WIRED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

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Agents for Michigan

3-04-10t

G. B. LEWIS SECTIONS

These sections are the best in the world, and I am prepared to handle them in Canada. I also keep in stock all kinds of bee-supplies. I am running two yards of 300 colonies each, and I want a good man to take charge of one of them. They are run for comb honey. None but a good man need apply.

I am also breeder of S. C Black Minorcas, all imported stock from England and Scotland. 15 eggs for $1.00. B. P. Rock, Beadley Thompson and Leffell Conger Strain, 15 eggs for $1.00. Beeswax wanted.

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Please mention the Review.

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W. Z. HUTCHINSON, Flint, Mich.

APRIL, 1904.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

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Flint, Michigan, April 15, 1904

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Via. The St. Paul and Union Pacific Line.

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3-04-4t 70 Cortlandt St.

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ROOT'S GOODS AT ROOT'S FACTORY PRICES

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4-04-3t

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300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address:

J. E. Merritt,
Gen'l. Mgr.

Michigan Land Co.,
Manistee, Mich.

If the REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estim a tion of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

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Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

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Representing the G. B. LEWIS Co., and DADANT and SON. Wholesale and Retail. Several Carloads constantly on hand. Send for 40-page illustrated catalog.

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3-04-4t

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I have already bought and paid for in this way a guitar and violin for my girls, a flute for myself, and one or two guitars for some of my subscribers. If you are thinking of buying an instrument of any kind, I should be glad to send you one on trial. If interested, write me for descriptive circular and price list, saying what kind of an instrument you are thinking of getting.

W. Z. HUTCHINSON, Flint, Mich.

If you knew that

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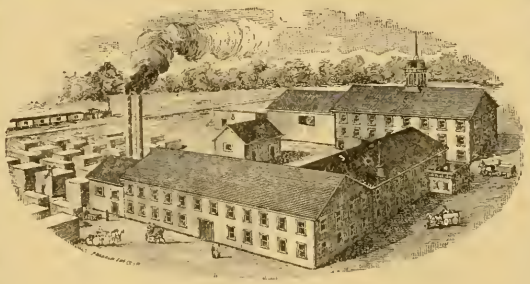
is better in construction, with better material than any other, would you order of us? How can you know if you do not give us a trial order?

Three Per Cent. Discount

on all orders received before April 15, 1904.

Wood-Brush Bee-Hive & Box Co.

12-03-tf LANSING, MICH.



Kretchmer Mfg. Company

RED OAK, IOWA

3-04-4t

Bee - Supplies

We carry a large stock and great variety of everything needed in the apiary. Best Goods. Lowest Prices. Prompt Shipments. Send for catalog and read description of Alternating Hives and Ferguson Supers.

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The Danz Hive

The Comb-Honey Hive

Points of Excellence

Root's Goods Sold in Michigan by M. H. HUNT & SON, Send For Catalog

Quality—You can produce better-looking honey.
Quantity—You can produce more of it.
Price—You can get more per pound for it.

The Danz Book of "FACTS ABOUT BEES" tells all about it, and what successful bee-keepers say in favor of it. We want to send it to you,

3-04-4t

Please send to my address "Facts About Bees"

Name.....

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M. H. Hunt & Son

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Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

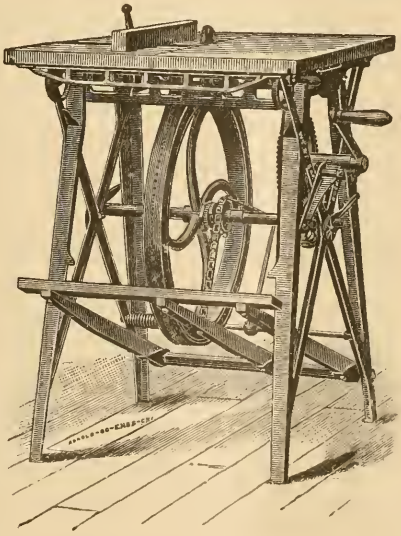
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

7-02 24t



THE

G. B. Lewis Co's

Dovetailed hives, sections, shipping cases, etc., at less than the factory's catalogue prices. Denver hives and shipping cases at still lower figures. Dadant's foundation. Bee-keepers west of the Missouri river can save money by buying from us. Our 48-page, illustrated catalogue, containing valuable information, to be had free. Write for it now. We pay the highest market price for beeswax.

The Colorado Honey Producers' Association.

1440 Market St. DENVER, COLO.

FAMILIAR NAMES.

It will interest you to read what Mrs. N. E. France, *wife of Gen'l Mgr. N. B. K. A.* and Emil Nebel, *of the firm John Nebel & Son* say of

YELLOWZONES

My Friend Dr. House:—Enclosed find $1.00 for Y Z. Please send them *very soon*, and excuse us for sending so often. Although I do not take them all myself I can not very well get along many weeks without them, and the children miss them when they are feeling badly, as well as I. Yellowzones have been of great value to myself and family.

Very sincerely yours,
Mrs. N. E. France.

Platteville, Wis.

Dear Doctor:—Find enclosed remittance for two large boxes Yellowzones. Have been buying them of you for 7 or 8 years and they are as effective as ever.

Yours truly,
Emil F. Nebel.

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People like the above do not send their dollars several times a year, year after year, for a worthless—or even an *ordinary* remedy. *You know that.*

YELLOWZONES

are a remedy *Absolutely Unequaled* for general household use. You need them in your own house and I guarantee your money back *and Another Box* if not satisfied.

If you keep but One Remedy in the House it should be YELLOWZONES.

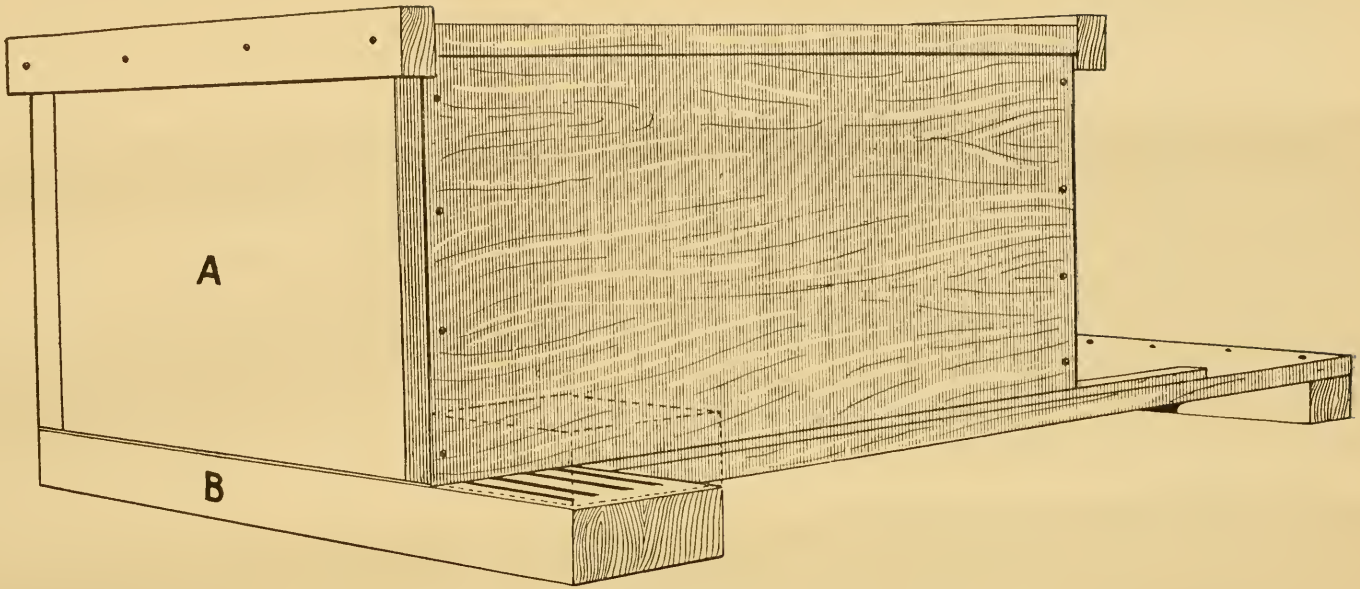
$1.00 per box of 150 Tablets.
Trial size 25 cents.

W. B. House, De Tour, Mich.

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ARE YOU SATISFIED AT HOME? Or do you wish to better yourself? You should investigate what the **San Joaquin Valley of California** has to offer hustlers. In that great valley is grown nine-tenths of the U. S. raisin crop, and millions of gallons of wine are made yearly. You can profitably raise almost everything there. Good farms at cheap prices. Low-rate colonist excursions in March and April on the Santa Fe. Write for pamphlets to Gen. Pass. Office, A. T. & S. F. Ry., Chicago.

California



Bee Hive Arranged for Feeding with a Bottom Feeder.

A is the back end of the hive. B is the feeder in position. The dotted lines indicate the block used for covering that portion of the feeder where the feed is poured in.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, APRIL 15, 1904. NO. 4.

Equalizing Colonies and Feeding Bees in the Spring.

BY E. W. ALEXANDER.

THIS is the time of all the year when your bees require the closest attention. Look after them every day, and see if there is not something you can do to make them a little more comfortable. I am sure it has always paid me to know the exact condition of every colony at all times of the year.

HOW STRONG COLONIES ARE MADE TO HELP THE WEAK.

After the bees have been taken from the cellar, and had a good flight, we commence at one side of the yard and examine every colony carefully. Those that are weak in bees, yet have a good queen, we mark; and, as soon as they have some larvae in their combs, which is usually in about five days after setting out, each is taken to a good, strong colony, and set on top, with a queen excluding honey board between. If there is no larvae at this time in the weak colony I give it a frame from the strong colony, so as to keep the bees from leaving their queen, and all going below. I close up all entrances except that of the strong colony. The bees will divide themselves about equally between the two queens; and in about four or five weeks I can separate them, and, in nine times out of ten, I have two good, strong colonies. For twenty years I have treated all my weak colonies in this way in early spring. Sometimes I have had 100 weak ones on top of strong colonies, and I don't lose five per cent. I think it a much better way than to try to build them up alone, as there is no trouble from robbers, and they don't require any attention until it is time to separate them. Don't keep them together too long, as the young bees, when over two weeks old, are liable to sting one of the queens.

THE IMPORTANCE OF WARMTH IN SPRING.

Do all you can at all times in the spring to keep your bees warm, con-

tract the entrances and try to have something to form a wind-break, if it is no more than a loose board to stand up on the windward side of the hive. Few realize the necessity of keeping their bees warm in early spring.

IMPORTANCE OF JUDICIOUS FEEDING.

And now comes (to me) one of the most important things to be done in the whole year: That is, spring feeding. I care not how much capped honey a colony has when it is set out in the spring, it will pay *well* to feed every colony a little warm, thin syrup nearly every day for the first 30 or 40 days. It is not necessary to feed more than two cents worth of granulated sugar a day, to each colony if made into very thin syrup. When the weather is warm and the bees are getting some honey, you can skip a day or two sometimes, but be sure there is some honey or syrup going into the the hive *every day*, and you will have your hives overflowing with bees and brood, so early in the season that you will *never* again leave them to shift for themselves.

Supposing it does cost a few barrels of sugar, what is that compared to having every hive crammed full of bees and brood at the commencement of the harvest, instead of leaving them weak in bees and losing two-thirds of the best harvest in getting colonies ready for it?

Every dollar's worth of judicious feeding at the proper time will bring more than five dollars worth of bees and honey before the season is over.

And now what to feed is well worth considering. I have tried all the cheaper grades of sweets, and find nothing as cheap, all things considered, as granulated sugar. If you have a little extracted honey to mix with it, the bees will like it some better. To have the best results, make it very thin, about like the nectar as gathered from the flowers, and, feed it quite warm.

A SIMPLE, CHEAP, EFFECTIVE FEEDER.

The next step is to know *how* to feed, so there will be *no* robbing, and not a *spoonful* lost, even if you feed a ton of it, and not lose any heat from the hive or drown a single bee, or kill one in any way. I have tried nearly every feeder that has ever been described in the bee journals and bee books, and several different ways of my own, and can find nothing that will fill all requirements at all times like the following: Take some 2x4 scantlings, either hemlock, basswood, or pine, cut them up in pieces four inches longer than your hive is wide, outside measurement. My bottom-board is $1\frac{3}{4}$ inches thick counting the cleats across the front and back, so I dress the scantling down to $1\frac{3}{4}$ inches thick. After being cut up the pieces are held over a buzz saw with a little wabble to it, so that it cuts a groove about $\frac{1}{2}$ inch wide. These grooves are cut to within about $\frac{1}{8}$ of an inch of going through, and to within $\frac{1}{2}$ inch of each end. I put four such grooves in each piece, leaving a thin piece between the grooves, then take a sharp chisel and cut a little out of each piece so that the syrup can run into all the grooves alike. I then fill them with hot paraffine or beeswax, leaving it a few seconds so as to give them a good coating inside to prevent the syrup from soaking into the wood. Next give them two good coats of paint, and we have feeders that have cost about six cents each, and will last 20 years or more.

When I look over the colonies in the apiary, I put one of these feeders at the back end of the bottom board of each hive, placing it so that the top of the feeder will be on a level with the top of the bottom board; then draw back the hive over the feeder, so it will be flush with the back of the feeder, and also with one end of the feeder, the other end of the feeder projecting four inches to one side of hive.

I then take a pail having a spout, and pour in the feed, being careful to have the hive set level. When the feeder is full I lay a block of 2 x 4 across the feeder where I have poured in the syrup, and the job is done. The odor of the warm syrup will rise up in the combs, and the bees will at once find the feed, and clean out a feeder full in 30 minutes.

If you want to feed in the fall for wintering, put two or three feeders under the hive, in the same way, and give them all they will require in one day. Of course, in the fall, you must feed much thicker syrup than in the spring.

If you have the syrup handy in the yard you can feed 200 colonies in less than an hour, and not kill the bees, or lose any heat from the hive. I have fed tons of syrup in this way, and have never had one colony robbed. I would advise you to leave the feeders under the hives all summer, as they are not in the way, and when, from any cause, the bees cannot get honey from the flowers, you can easily give them a little syrup; and many times save their brood, which I have seen them destroy in large quantities during cold, wet spells of weather.

This loss of brood is a *sad sight* for a bee-keeper, especially when he wants strong colonies backed up with hives full of maturing brood, so I repeat, leave the feeders under the hive all summer, and when the cold wet spells do come, give them a little syrup. A very little will many times save their brood, and the bees will go for the flowers with a rush as soon as the weather warms up a little—much faster than if they had lost their brood.

Don't think for a moment that you are going to get something for nothing; if you do you will be sorely disappointed. It is the same with bee-keeping as everything else, "Eternal vigilance is the price of success."

DELANSON, N. Y., Feb. 9, 1904.

The Successful Making of 400 Shook-Swarms.

BY M. A. GILL.

EDITOR Review—Thinking that perhaps my season's experience with "forced swarming" might be of interest to some of your readers, I will give it.

SHOOK-SWARMING MORE SATISFACTORY THAN WATCHING FOR SWARMS.

Some writers have said that forced swarming is so much work that we must look for something else. While it is a fact that to run a number of out-apiaries by the forced swarming method, *does* call for a lot of work, yet, to me, it brings the least possible amount of work, worry, and expense. What is there more trying to the nerves than to be compelled to watch along the rows of hives in an apiary, and *wonder* if this one will swarm today, and *why* that one did not swarm yesterday, etc.? Isn't it behind the spirit of the age for a full grown man to stand around all day practicing the old, mythical methods, and "wondering if the bees will swarm?" Why not open the hives and *see* if they *are* going to; why not swarm them; and if not, then

go somewhere and hunt a job more pleasant and profitable? For my part, I like "intense" bee-keeping. This season it was necessary for us (my wife, one man, and myself) to go through two apiaries each day.

NECESSITY FOR SYSTEM, RECORDS, AND CLEAR "MENTAL PICTURES."

Forced swarming means this: That the operator must have the work so well in hand that he has a "mental picture" of all the conditions, during the swarming season, in his several apiaries. This can be done only by commencing at a certain place and going over every colony every six days. I say, going over every colony; of course, I keep a record, on a piece of section which lies under the cover of each hive, and this record will indicate the needs of each individual colony as soon as the cover is raised.

MANAGEMENT HELPS TO REDUCE THE AMOUNT OF SWARMING.

Every apiarist, of course, desires just as little swarming as possible. He knows there is a certain per cent. of colonies that will not offer to swarm; and this per cent. is increased by his management before the swarming impulse begins; by his furnishing plenty of room, getting work started in the supers before the main flow comes on, etc. Again, there is another certain per cent. of colonies that can be quite easily discouraged from swarming by simply taking away two or three frames of brood of hatching bees, and giving full sheets of foundation instead, when they will settle down to business for the season's work, without any further attempt at swarming. However, only a close observer, with a practical eye, can distinguish between such colonies and those that are bound to swarm whether they are in condition or not.

HOW ABSCONDING MAY BE AVOIDED.

Many writers claim that the main objection to forced swarming is the tendency to abscond. Now, whether it is on account of the kind of hive used, or whether it is the locality, or because of the difference in the mode of operation, I do not know, but this I *do* know, that out of 400 forced swarms that I made last season, not *one* absconded.

If I should use a little, hot, half-story hive to confine a large colony in for three or four days, until the bees are ready for a super, as friend Morrison advises, I should expect absconding. If I should fill a hive up with dummies (all except four or five frames, *a la* Doolittle) I should expect absconding. But, if we shake all the flying bees into a full-sized, 8-frame hive, with one, or perhaps two, frames of unsealed larvae and eggs, remove the super from the old hive, the super being filled with bees well at work on bait sections and full sheets of foundation, on to the new swarm, which is set upon the old stand, and given a well-ventilated cover, the bees drenched with new honey, that will fly out in the shaking process, *why* should they abscond? And, furthermore, how could they, unless the queen should go on foot, as she is clipped?

One thing is very necessary, and that is to be sure and remove all queen cells, and even cups with eggs in, from the frames that are hung into the new swarms. In three cases this season, where the cells were left from neglect, a swarm issued about the time the cells were sealed.

WHEN IT IS BETTER TO DISCOURAGE SWARMING THAN TO "SHAKE."

Now, we frequently find a colony that has been backward, that has just got its hive filled with brood in all stages, except hatching bees, and there are even cell-cups with eggs in; don't force such a swarm, for you are liable to lose a hive full of valuable brood. Instead of shaking, *discourage* such colonies until the next visit, by taking away one frame of the youngest brood.

and cutting out all queen cells. Possibly by the next visit they will have changed their minds and don't care to swarm. If so, well and good; but, if they again show a disposition to swarm, they now have hatching bees that can be depended upon to save the brood.

Always have the little records under the cover to show the individual needs of each colony. And its surprising how quickly three people can go thoroughly over 100 colonies, where all fixtures are uniform, where proper individual records are kept, shake 10 per cent. of all the old colonies in the apiary, and be ready to leave for the next apiary. On several different days the past season, my wife and I and our helper would drive 18 miles, go over 350 colonies, and shake from 25 to 40 of them; and I offer as evidence of thoroughness the fact that in all our nine apiaries we didn't have *one* prime swarm in the air; at least, we never missed one, and we did no cutting out of cells to speak of, and only found where five old colonies had cast a second swarm.

So, again, I must say, that I am still in favor of forced swarming for out-apiaries. We go every day, because we can, and because we have to, for four or five weeks; and Oh! what a relief, when we know that swarming is over, and that now we can stamp under foot that condition which has held us as slaves for a month—but there is a satisfaction in work well done.

LONGMONT, COLO., Oct. 10, 1903.

Good Reasons for Producing both Comb and Extracted Honey.

BY JAS. A. GREEN.

MOST bee-keepers produce either comb or extracted honey exclusively. Those who run largely for extracted honey are likely to consider the production of comb too fussy and particular, and something that it will not pay them to bother with. I have known extensive producers of comb honey who had no extractor, and others who used an extractor only rarely.

The extracted honey man has the more justification for confining himself to his specialty. In most cases it will not pay him to attempt to produce a small amount of comb honey.

Whether comb or extracted honey will prove the more profitable is a question that each must decide for himself, according to his local conditions. But even if he decides that it will pay him best to make comb honey his main crop, it is my opinion and firm conviction that he cannot afford to confine himself exclusively to that. There are three main reasons for this.

THE COMBINATION SYSTEM GETS THE BEES STARTED IN THE SUPERS EARLY IN THE SEASON.

The first is the fact that it is often difficult to induce the bees to begin work promptly at building comb and storing honey in the supers.

Upon this hinges much of our trouble with swarming, and not a little of our success or lack of it in getting a good crop of honey. Often a colony will do

almost nothing for days when other colonies are storing rapidly, the only apparent difference being that the backward colony seems disinclined to make a *start*. Sometimes after they have once begun they will thereafter do well, but often their comparative idleness, at a time when honey is coming in freely, results in the contraction of the swarming fever. With a short honey flow these delays and hindrances result in a serious curtailment of the honey crop, often indeed, in an entire failure. The cramming of the brood chamber with honey is not the least of the evils, and with an old queen effectually spoils the chances of the colony doing well later. The man who has only a few colonies, and plenty of time to give to each individual case, can remedy these evils in various ways, but the aim of the apiarist who expects to make money at the business must be to accomplish results with as little manipulation as possible.

IT SECURES A SURPLUS EVEN FROM WEAK COLONIES.

The second argument against exclusive comb honey production is that a colony that is weak or only moderately strong in numbers cannot produce comb to the best advantage. That foundation principle of bee-keeping, "keep all colonies strong," applies with far greater force to colonies producing comb honey; for a colony that will do very fair work storing honey in combs already built, may do nothing whatever at building comb in a super. I have frequently heard bee-keepers say, at the close of a very fair honey flow, that many of their colonies had not made an ounce of honey. This is sheer waste. There is something radically wrong with a colony, or its management, when a colony that has its combs in the brood chamber completed, and is beyond the nucelus stage, cannot be induced to store honey in combs in the super, if there is any to be gathered in the fields.

IT LESSENS THE NUMBER OF UNFINISHED SECTIONS.

My third reason for advocating the mixed system is the fact that ordinarily the close of the honey flow finds a great many sections on the hives only partially completed. These sections are seldom salable at any profitable price. To extract the honey from them is a tedious and somewhat unprofitable job, while the honey, being mostly unsealed and unripe, is not of very good quality. Moreover, careful observation for years has convinced me, that beyond a very limited number, that may perhaps be found profitable, a section that is filled with empty comb is simply a section spoiled.

Many, I know, will not agree with me here, but when we consider that honey stored in such sections will very seldom grade higher than No. 2, worth in most markets two cents per pound less than No. 1, it should be evident that it would be more profitable to have this honey in the extracted form, or in a more salable and higher priced comb. A still stronger argument against the use of drawn combs in sections is that many times (almost always, when the honey flow is good) sections filled with full sheets of foundation will be drawn, filled *and completed*, even sooner than the sections of drawn comb will be entirely finished.

All these drawbacks to be met in the exclusive production of comb honey are easily avoided or remedied by an intelligent combination of the two systems. Take notice that I say a *combination* of the two. The man who sets aside a portion of his apiary to be run for extracted honey throughout the season, while the other part is devoted to the production of comb, is not using a combination system. He is using both systems, and using them independently, whereas, in a true combination system, the advantages of the one are made to supplement the shortcomings of the other throughout

the whole apiary and through the whole season.

At the beginning of the season all colonies that do not seem likely to begin work at once in the supers are given a set of extracting combs.

THE IMPORTANCE OF GETTING BEES STARTED IN SUPERS EARLY IN THE SEASON.

The bees will begin storing honey in these readily, thus forming the babit of storing in the supers *early*, which is very *important*. The ideal condition for a colony at the beginning of the honey flow would be to have every cell in the brood chamber full of either brood or honey, so that the very first honey gathered must, perforce, be stored in the super. Since we cannot well secure this, it is well, as the next best thing, to get them started there as soon as possible. Bait combs are good in their way, but even a whole super full of drawn combs in sections is not as good as a super of nice extracting combs for this purpose. This super of extracting combs may be left on until it is completed, a super of sections being tiered under it as soon as it is well under way, but I prefer to remove it in most cases as soon as it is about half full. I would rather leave it on, but the bees show such a preference for the combs that unless the honey flow is very heavy they will do little or nothing at the sections until the combs are completed.

There will always be some colonies that will not do good work in the sections, because they are not strong enough in numbers, because they are not good comb builders, or because they do not cap their honey nicely. The extracting combs may be tiered up on these to any desired height and left to be finished. If these colonies get into good comb honey condition before the end of the honey flow, the combs may be removed, extracted, and stored away until they are needed again. When a colony swarms, its comb supers should go with the swarm, while a set of extracting combs should be placed on the old colony. Any colony that at any time during the honey flow, is found to be doing poor work in the sections, should have those sections promptly removed and replaced with a set of extracting combs.

As the season draws to a close, instead of giving sections that may not be completed, give extracting combs to the colonies that are doing the poorest work in the sections, giving their sections to others to be completed.

In this way you not only secure a larger amount of finished honey, but you avoid having a lot of unfinished sections to carry over until the next season, and which would much better be still in the crate in which they came from the factory. My article in August Review of last year goes into detail in some directions more than I have here.

Of course a queen excluding honey board is a practical necessity on every hive that has one of these sets of extracting combs, but the advantages of this are so great and so many that I would not undertake to go without it, and every hive that contains a colony strong enough to store honey is supplied with one. I use the wood-zinc board, as no other form will keep the exact bee spaces that are so necessary for rapid and convenient handling.

ADVANTAGES OF A SHALLOW EXTRACTING SUPER.

My extracting supers are six inches deep, just the same as the brood chambers, the only difference being that the space occupied by eight frames in the brood chamber is filled by seven in the upper. These frames have a projecting top bar resting in a rabbet at the top of the hive, but have close fitting end bars, pressed closely together by a screw through the side of the hive, as in the Heddon hive. This continual

pressure keeps out the propolis, or if any gets in it is squeezed out so that accumulations cause no trouble.

These supers can be handled any side up about as safely as if they were so many blocks of solid wood. No frames are ever handled separately until they come to the extracting room, when the screws are loosened and the whole dumped out upside down. They are freed from bees by the use of a bee escape or by Rambler's jouncer, a valuable invention, though I had used the same principle for a long time. It will be seen that the change from one kind of a super to another requires very little time or handling.

Briefly, the advantages of the system are that you secure more honey, a higher grade of comb honey, save a great deal of waste, and do it with a control of the bees and an economy of labor that can be secured by no other method that I am familiar with.

This is not theory. I first gave this system to the public about fourteen years ago, and, for a longer time than that, it has been the plan on which my apiaries have been managed.

GRAND JUNCTION, Colo., Nov. 13, 1903.

Getting Bees off the Combs When Extracting Honey.

BY E. D. TOWNSEND.

THE clover and basswood honey season closes in this locality about July 15th, and as soon as the honey is cured, (usually a week after the flow stops) we are ready to extract.

I think I will invite the reader to go with me after a wheelbarrow load of honey; then we can work and talk at the same time. You better put on this veil, as there is no honey coming in now, and there will be robbers around, so we must figure on the bees being a little cross. Then I will light up the 3½-inch Bingham smoker. I like quite a large smoker while extracting; at other seasons I do not need so much smoke, and a smaller smoker is more convenient. This smoker fuel is cut from hard maple. The blocks are cut 4½ inches long, then split up, as you see, about ½ inch square. This fuel gives a good, dense smoke; and the beauty of it is, it lasts so long. This is quite a saving of time, and as this is our busy season, it is worth considering. A smoker to handle this kind of fuel, should have a conical cover like the Bingham.

Now I will put this empty upper story on the wheelbarrow. You will notice that this wheelbarrow has a 20-inch wheel, with a 2½-inch tire, and, if I could find one with a 24-inch wheel, I think it would be all the better. We will also need this robber-cloth, and a pry with which to loosen the frames and upper stories. This pry is made from a leaf of an old buggy spring, broken in two in the center where the bolt hole is. Each leaf makes two, and they are all ready to use. Now I will wet the ends of this robber-cloth, so it will do its work better. We are now ready to go out in the yard.

LITTLE, TIME-SAVING KINKS.

You will notice that I draw my wheelbarrow *behind* me going out, then, in all the yard work, it never has to be turned around. A little thing to

mention isn't it? But, if I should wheel in, say, forty loads a day, and stop and turn around at both ends of the trip, it would not be out of reason to suppose that I could wheel in forty-*two* loads without turning. If we can save at this rate, in all the different manipulations necessary to produce a crop of honey, it will explain why it is that one man will accomplish twice as much as another, with apparently no more exertion. If we can by "short cuts" make our necessary work accomplish twice as much, how much can we accomplish by dropping the "thousand and one" unnecessary things some bee-keepers are doing, things that do not pay at all to do? I saw an editorial in one of our bee journals last year, where the editor recommended keeping the entrance of the bee hives cleaned out, during winter and spring, with a bent wire. Bosh! Then some go so far as to lift their hives up, and clean the dead bees from the bottom-board. Put me on record as saying that no man ever got one cent of pay for cleaning dead bees out of a colony of bees during spring, or any other time, for that matter.

IMPORTANCE OF SYSTEM.

Too return: I will commence at the east end of this south row of hives. You see the hives face the south, and by commencing at the south row, I never have to work in front of any colonies that have been disturbed. I always commence at this corner hive when extracting. In fact, whenever I go over the yard to see if they need room, or for any other reason, I commence here, and go down through this south row, back on the next, and so on clear through the yard. I always know which hive is "next." If it does not need anything done to it, I pass it by; but always going the same route. With this system, I think more can be accomplished, and then there is no danger of missing any.

You will notice that the hives are in groups of two. I like this way of arranging them, as we can put more colonies on the same ground, and one hive can be used to lay tools on while working with the other. These hive-stands are made of 2 x 4 white oak and are just plain rims, spiked together at the corners. Each stand measures five feet ten inches long, by twenty-one inches wide.

I will work this south row down through until I come to a point south of the honey house door, then I will go to the other end, and work back, and finish the row; with this method we are always moving our honey *towards* the tanks. You will notice that the most of the colonies have on two upper stories, and as that is the number I wheel in at a load, each trip finishes a colony; and the hives are covered up as quickly as possible, as it is impossible to handle the honey without starting some honey to running down among the bees, and robbers are quick to detect it, and the sooner we can get the honey away, and the hive shut up, the less likely we are to let the robbers get a taste. If we are careful not to let them get the start of us, we can extract all day without much trouble, but if we are a little careless and let them carry home a few loads of honey, they are likely to come in such hordes that it might be a good policy to close up business for the day.

You will notice that the fourth hive in this row has on only one upper story; when I come to that I will take it and go by those that have the two on and get that other one that has only one on, to finish out my load. Then I will come back and get those I have left. In this way I will get two upper stories at a load, and still leave all the colonies finished as I go along. I place the wheelbarrow back of the hive in such a position that I can stand in one place and take the combs out of the hive, brush the bees off, and place

the honey in the empty upper stories on the wheelbarrow. I first see that the smoker is in good trim, pry the cover loose, lean it up against the front corner of the hive, then proceed to smoke down the greater portion of the bees, after which I take out the combs and brush the few remaining bees off with a Coggshall brush. If I have done a good job with the smoker there will be only a few bees left along the bottom bar. I do not try to get *every bee* off the combs; it would take too long; and many of them will leave before we get loaded up, and the few taken in the extracting-house will soon cluster on the screen-window and will do no harm. When I get a comb free from bees it is put in the further side of the empty hive on the wheelbarrow, and covered up with a robber-cloth; then, when the next is ready to go in, I slide the cloth up from the back side, and continue in this manner until I get in three combs of honey; the other five are put in by sliding the cloth back from the front. Then the upper story that I have just emptied is pried off and put on top of the one I have just filled. Now I am ready to treat the story below, the same as I have the first one. The matter of getting off what few bees there are left after smoking down, say, three-fourths of them, is not much work. What there are will be near the bottom-bar.

BRUSHING BEES BOTH "UP" AND "DOWN."

With the left hand, I take hold of the corner of a frame, near the top-bar, in such a way that the thumb and the first and second fingers reach quite well out on the end-bar. The further I can reach out, without getting my fingers sticky, the easier I can hold the frame. The projection of the top-bar comes in the palm of the hand. You will see that with the grip on the frame, I can make it hang nearly straight up and down. Now I swing the frame around until the bottom-bar is nearly towards me. I am now ready to brush off the bees. I take the Coggshall broom in the right hand, and, with *one* downward brush I can nearly clean the comb, and when I am bringing the broom back up to sweep the other side, I finish cleaning the first side. You will see that by holding the comb in this manner, *both sides* are in a position to be swept, without changing the position of either hand. As the bees are brushed off in front of the hive, after the first downward stroke, any straggling bees that may be left are brushed up one side and down the other. The idea is to brush bees with both up and down strokes, and the few bees that are left along the bottom-bar may be disregarded. This up stroke of the broom scatters the bees some, but, as they are in front of the hive, they have no trouble in finding their entrance.

ONE GOOD FEATURE OF BLACKS AND HYBRIDS.

The above is my method of getting the bees off the combs where the Italian blood predominates; but when I come to a colony of blacks, or hybrids, or any colony that acts "panicky" when I smoke them (I know before opening the hive which they are) I open the hive as before, and gently smoke them off the top-bars until I get them started down, when I gradually increase the smoke until they are nearly all in the lower half of the upper story, when a few quick strokes of the smoker will set them in a panic, and they will nearly all run down below. Now I work quickly with the pry, loosen the upper story, and set it off before the bees have time to get back. In this way, many times the combs are so free from bees that they need no brushing, and are wheeled direct to the honey-house.

REMUS, Mich., Feb. 17, 1904.

Editorial

EIGHT EXTRA pages again this month, and, as was the case with the last issue, we have the advertisers to thank for them.

PENNSYLVANIA bee-keepers who are interested in the forming of a State Organization are requested to write to E. L. Pratt, Swarthmore, Penn.

THE HONEY PRODUCERS' ASSOCIATION, of Ontario, Canada, has dropped the idea of trying to handle honey or to control the markets, but will still give their attention to the collection of crop reports.

MR. ADRIAN GETAZ admits that it would be well if quality could be made a part of the rules in grading comb honey, but he does not see how it could be done without gouging into one or more of the sections, and thus spoiling them.

THIS ISSUE of the Review will go to hundreds of bee-keepers who are not subscribers. To such I would say that it will probably be to our mutual benefit if you will read pages 134, 135 and 136. Those who are already subscribers may find something of interest in those pages.

RED RASPBERRIES, so writes A. W. Smith, of Parkville, N. Y., furnish a honey as light colored as that from white clover, and he is surprised that I should say it is not quite so white. Mr. E. A. Morgan, of Colbourn, Wis., also writes that the wild red raspberry blossoms in profusion for two months, frost or no frost. If killed once, twice, or thrice, it will bud and blossom again.

IRA D. BARTLETT, of East Jordan, Michigan, has kept bees for seven years, wintering them out of doors by the method described in the Review for last August, and he has met with his first loss. When he cleared away the snow March 23rd, and blew in at the entrances, six colonies out of 148 failed to respond. This is the most successful out-of-doors wintering in Michigan of which I have heard of this year.

ACCUSTOMING BEES to sights and and odors is recommended by Mr. C. K. Carter, of Eagle Grove, Iowa. He says "put one of your old coats on top of the hive, and, in a few days the bees will not be so cross when you come around the hive." He further says "take an old horse blanket that has been used and filled with sweat and odor, and put it on the hive, and the bees will not be so likely to sting a horse as they were before they had become acquainted with the odor."

UNBOUND SHEETS of zinc are used by Mr. J. F. McIntyre as queen excluders. The reasons that he gives for this preference is that such sheets give freer access to the supers than do the wood-zinc excluders, and they can be peeled off like a cloth instead of making it necessary to break all of the brace-combs at once. Mr. McIntyre's hive has a bee-space both above and below the frames, and the sheet of zinc is as large as the outside of the hive. He says that the sheets do not sag down in the middle, but the bees sometimes push them up in the center by crowding burr-combs under them.

OHIO is quite likely to secure a foul brood law. The bill has passed the House and there is every indication to show that it will go through the Senate. The bill is not like the Michigan, Wisconsin and Ontario laws. That is, there is no State Inspector appointed. It is more like the Colorado law which provides for County Inspectors. The County Inspectorship was a failure in Michigan, but it seems to work all right in California and Colorado, and it may in Ohio. If it does not, it will be easier to get the law changed to something else, than it would be to pass a new one in the first place.

FORMALIN GAS may have been a failure in destroying the germs of black brood, because not used strong enough, nor long enough. Mr. E. W. Alexander, at one of the New York institutes, told of the thorough manner in which he had used it. He used a large tank much like one described by Mr. C. A. Huff in the Review of last May. The combs were put into a tank, the gas turned on and kept going for several hours. The combs were left in the tank several days and then given another fumigation. When the cover was removed the tank was still full of gas, and remained so for several days afterwards. Some very severe tests were made with black broody combs, but all proved successful. Mr. Alexander was quite emphatic in his belief that those who had failed with formalin gas had "not more than half tried it."

USING A TILE FOR A HIVE-STAND.

Mr. J. W. C. Gray, of Atwood, Illinois, writes me of a novel hive-stand that will not decay, nor be displaced by moles; it is nothing more nor less than a 12-inch drain tile set upon end, in the ground, the upper end projecting a few inches above the surface of the earth. This gives a circular surface, one foot in diameter, upon which to set the hive. A piece of thin board leaning against the alighting board, its lower edge resting upon the ground, completes the arrangement, and Mr. Gray well-says it is the cheapest, most tidy and durable stand that has ever been used.

DISCOURAGING SWARMING.

In this issue of the Review Mr. Gill tells why and how it is often desirable to discourage swarming instead of shaking the bees. At the last convention of the Ontario bee-keepers, Mr. Morley Pettit gave advice something in the same line. He said " I retard swarming by giving ample room and ventilation early in the season, and by helping the weak with brood from the strong. A weekly examination of the brood chambers shows when a colony is *determined* to swarm, when it is at once shook upon starters, and the swarming impulse is thus satisfied."

STAND UP AND BE A MAN.

When I was about seventeen years old I began the study of short hand, or stenography, as it is now called. As a method of practice, I was quite given to jotting down my thoughts in short hand in a note-book that I carried. In rummaging through a drawer the other day, I came across one of these old note-books, and, in glancing through its pages, my eye was caught by the title of one of the items. It was the same as the heading of this article. I had the curiosity to read it, and I consider the advice good enough to print, even if it were written by a boy in his teens. Here is what I then wrote:

"How easy it is to stand up and be a man when you have no troubles, when friends and fortune smile upon

you, and success attends your every undertaking; but when troubles come thick and fast, one sorrow treading close upon the heels of another, when friends prove false and fortune frowns, and one hope after another is dashed to the ground, how hard it then is to stand up and be a man.

But when is it that we most need to be strong, hopeful and courageous? Isn't it adversity's dark hour that most requires us to exercise our manly qualities?

Do not cower before the network of difficulties, disappointments, trials, and sorrows that you will surely meet in this world; meet them bravely, unravel the tangled threads, be resolute, persevere, trust in God, stand up and be a man."

As I look back over my past life I can not help thinking how many times I have been called upon to follow the above advice; and how I have tried, to the best of my ability, to follow it.

SOME SURPLUS EACH YEAR IS BETTER.

In favor of spreading out, and establishing out-apiaries, it has been argued that this plan lessens the chances of having no surplus, as conditions vary greatly even in localities quite near to each other. I think no one disputes the correctness of this view, but some have put it in this light: Suppose that I have an apiary at home and another ten miles away. Suppose, still farther, that each alternate year there is a good crop at home, but a poor one at the out-yard, and *vice versa*. The assertion is made that just as much honey would be secured, provided overstocking cuts no figure, if all of the bees were in one locality. Supposing all this is granted, there still comes up another point: Isn't it better for a man to have some income each year, than to get a very large amount one year, and to be left destitute the next? It won't answer to settle some of these questions with the arithmetic. We must count in the factor of human nature. When money comes in by the hundreds or thousands of dollars at a time, it is human nature to be extravagant—to hope that next year will be as prosperous. Extravagant habits are formed, and when no honey comes the next year, and the money is gone, there is suffering, or, at least, great inconvenience. Aside from the fact that it is better to have a steady income, year after year, I am thoroughly convinced that more profit will be secured, in the aggregate, if a man owns several apiaries, scattered about, than if he owns only one.

THE PECULIARITIES OF FORMALIN GAS.

Regarding the efficacy of formalin gas for destroying the germs of foul brood, Mr. France has mentioned that bees hatched out of the cells of combs that had been exposed to the gas. Mr. France thought if the gas could not penetrate the cappings of brood and destroy the bees just ready to hatch, not much could be expected of it in the way of destroying foul brood. On the other hand, it was mentioned several times at the bee conventions last winter in New York, that the gas had been used in *hives of bees* without killing the bees. Right in this line is an excellent article by Mr. J. E. Johnsor, of Williamsfield, Ills., published in the last issue of the American Bee-Keeper. The key note of the whole article is contained in the following words: "All bacteria, ferments and fungi are of vegetable life, and should be treated as plants. They neither live nor die from the same causes as animals. Some preparations will kill both animal and vegetable life, but usually not from the same cause or in the same way."

It is easy for us to understand why some preparation might kill animal life but work no injury to vegetable,

and *vice versa*. Still further, something that might be deadly to one form of animal life would be harmless to some other form. For instance, some insect powders cause the death of some insects by clogging up the spiracles through which they breathe, but are harmless to animals that breathe by means of lungs.

Mr. Johnson says there are only two gases that are good germicides; that from burning sulphur and from formaldehyde. The former is deadly to animal life as well as to bacteria, but the latter may be inhaled, along with air, to a considerable extent, without injury. At a medical college a dog was confined for 24 hours in a room where formaldehyde gas was turned in quite strong, yet the dog was not injured, except that his nose, eyes, mouth and lungs were greatly irritated; but he soon recovered so as to eat a hearty meal.

Mr. Johnson says we might saturate a piece of cotton with a 40 per cent. solution of formaldehyde, and lay it upon the bottom board of a hive containing a colony of bees, covering the cotton with wire cloth to keep the bees from coming in contact with the solution, as it would burn them. The gas would be set free and combine with the air in all parts of the hive. He says that with a 40 per cent. solution the bees would suffer, and probably desert their hive unless given abundant air both above and below, hence he would advise the use of a weaker solution, gradually increasing the strength until the right point is determined.

All this may seem like going on a wild goose chase, but I say let those who can, try these things.

SHALL THE NATIONAL ASSOCIATION PUBLISH A STENOGRAPHIC REPORT OF ITS ANNUAL CONVENTION?

If I am not mistaken, the National Association of bee-keepers has never yet employed a stenographer to take a verbatim report of the proceedings of its annual convention. Still further, I believe it has never yet published any kind of a report of its proceedings, except such a report as had first appeared in the American Bee Journal, and then was afterwards put into book form by the publishers of the American Bee Journal. Perhaps, in times past, the National has not been able to do more than this, but isn't it now able to employ its own stenographer, and publish its own report?

The American Bee Journal has been enterprising enough to employ a stenographer, and to publish a report of the proceedings, and in so doing it has probably gained many subscribers. Many have told me, and written me, that one reason why they subscribed for the American Bee Journal was because it gave the only stenographic report of the National convention. The National ought to "take advantage of its advantages." If men pay $1.00 for the American Bee Journal that they may thereby read a report of the convention proceedings, why should not the National be able to hold out this same inducement to men to become members, viz., that by so doing they would get a report of the proceedings of the annual convention? Nothing said here is intended to be derogatory to the American Bee Journal. Instead, that journal is deserving of praise for its good business management and enterprise, but, having said this, it is strictly in order to ask why the National should allow the American Bee Journal, or any journal, to take advantage of advantages that belong to itself? Publishing it in piecemeal, as a journal from necessity must, it is sometimes three months after the convention is over before the report is all printed. Then, after this, after perhaps three-fourths of its members have already read the report, to turn around and pay out good money to have it put

into book form and sent to these same members, to whom it is a twice told tale, seems to me like very poor management on the part of the Association. It seems that the other directors have, of late, arrived at the same conclusion, as, when this was proposed two years ago, it was voted down with an overwhelming majority. Last year it was proposed that the Association buy copies of the American Bee Journal, that contained the report, and give them to those members who were not subscribers, thus furnishing every member with a report, but this, too, was voted down; only one or two directors favoring it. If this plan had been carried out it would have been an injustice to those members who were already subscribers to the American Bee Journal. All members ought to be treated *alike*, and, because I had already paid $1.00 and become a subscriber to the American Bee Journal, there is no reason why I should help pay for copies to give to some man who was not a subscriber.

My opinion is that the time has come when the National should employ its own stenographer, and get out its own report of the annual convention. In the same cover, and bound in with it, should be the report of the General Manager. Arrangements should be made with some reliable stenographer, and specifications should be drawn up regarding the report, the size of the pages, the size of the type, the kind of paper that shall be used, the kind of cover, etc., and then bids should be solicited from printers, asking how much per page they will get out such a report, and then the job let to the lowest reputable bidder. These things should all be settled before the coming convention; and, within one month, at the outside, after the close of the convention, the report should be in the hands of the members.

Probably not more than 10 per cent. of the members will usually attend an annual convention. Those who can not go would like to know *exactly* what was said and done, and one great inducement for a man to become a member, as I have already said, is that he would receive a copy of the report of the proceedings.

Unless some one forestalls me I shall, within the next two or three months, make a motion that the National, at its next convention, employ a stenographer to take a verbatim report, and that the Association publish the report, awarding the work to the lowest reputable bidder. My reason for publishing these views is to call out discussion, and learn the wishes of the members. I shall be glad to hear from any one upon either side of the question.

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OVERSTOCKING.

The question of overstocking, of deciding how many bees can be profitably kept in one locality, is one of the most elusive that comes before the bee-keeper. The publication, last month, of the radical views of Mr. E. W. Alexander has brought me a lot of correspondence on the subject, both *pro* and *con*. As samples, I will give extracts from letters received from two well-known and practical men; one from Harry Lathrop, of Wisconsin, and one from the editor of the Rocky Mountain Bee Journal. The former says:

The article on overstocking, by Alexander, I feel, should never have been published; because it is likely to do untold injury to bee-keepers in thousands of locations. There is scarcely a successful bee-keeper who is not envied by some nearby persons who would be only too glad of this pretext to start in on an already occupied field. The moral restraints that have, heretofore, to some extent, protected priority of rights, will melt away like fog in summer. Then farther, the theory that Mr. Alexander has promulgated has been proven false in a *thousand* cases on fields that are

above the average in honey production,

I will only give you proof based on actual experience. The last season in in Southern Wisconsin was certainly a good one for honey. My home-field at Monroe is what I call a good white clover location, with some basswood in good basswood years. When I started in there I bought out an apiary that had been established for 25 years without any opposition. I expected to have the field, and built a comfortable home there with the intention of making a living for my family in the business; but just about that time another person started in, and has built up an apiary *larger than mine!* I purposely confined mine to 75 colonies, to prevent overstocking, supposing that he would do the same without any particular understanding regarding the matter. Last season he increased his to 112 colonies, which would make, we might say, with other scattering colonies on the field, somewhere near 200. Our best colonies ran for comb honey produced 75 pounds, while in an apiary in the same county and a similar field, at New Glarus, with only 35 colonies on the field, gave 150 pounds of comb honey from the best colonies. I was there and saw the honey taken off all in a bunch.

No, Mr. Hutchinson, the teachings of Mr. Alexander's article have been proven false in *thousands* of instances; and I am away from home today, missing all the comforts that a man of my age ought to have in his own home, because his teachings are not true.

If it were true that I could go home and gather together, at Monroe, my scattered forces (colonies), have a great big apiary, and get good crops right there where everything is handy and nice (you know how comfortable, for you have been there) , I would not be in such a place as this (Bridgeport) pounding brass for the railroad company till eleven o'clock at night, waiting on late trains. I expect to start a little apiary here; and it will be the only one I will have on an exclusive field. The man who started on my field at Monroe is old, and it is easier for me to leave my home than it would be for him. One of us must go, and I have accepted the inevitable.

Mr. Morehouse does not make any great comparison between a locality that is overstocked, or well stocked, and one having only a limited number of colonies, but he brings out the point —well, here is what he says:—

I was very much interested in the article in the last Review from a New York correspondent, upon the subject of overstocking. I have never thought this country as badly overstocked as it is represented to be. I think one of the greatest troubles is, it is *un*derstocked with really skillful bee-keepers. There is too much hap-hazard about the methods used. To illustrate: In average apiaries here last season, the yield was from nothing to six supers per colony. The six-super colonies were the colonies that were *largest at the beginning of the flow.* Now, using the "shook swarm system" as a base, why not keep an extra large number of colonies in each apiary, and by uniting on starters, with abundance of super-room at the beginning of the honey flow, make every colony in the apiary a six-super colony? I am going to work on this theory this summer.

I may as well say here what I ought, perhaps, to have said long ago, and, possibly, ought to say in every issue, and that is, that I publish many things in the Review with which I am not ready to agree. I wish the Review to be broad in its views and teachings. I wish it to be fair, and to consider all sides of a question. Still further, I often refrain, purposely, from making any comment upon views that are extremely radical—I wish correspondents to be drawn out, roused up sufficiently to reply, and, that too, without having their minds biased by an editorial. If I thought that the publication, belief in, and adoption, of certain views would work any injury, I certainly should utter a word of caution—or else not publish the views at all. I will be frank enough to confess that it did not occur to me that the publication of Mr. Alexander's article would lead bee-keepers to crowd in upon other bee-keepers, and I scarcely think now that such will be the result, so thoroughly has the idea of overstocking taken possession of the minds of bee-keepers. The thought that I had in mind was that many

times bee-keepers may *think* that their locality is overstocked when it *isn't*. They have been brought up to believe that "about so many colonies" may be profitably kept in their locality, and they accept that decision without experiment or question, greatly to their loss, as was the case with Mr. Alexander. I wished them to be roused up sufficiently to investigate.

I may say that my personal belief in the matter of overstocking is that there is a vast difference in localities and seasons. It is quite likely that there are times in basswood localities, yes, and in buckwheat and clover regions, when it would be almost impossible to overstock the locality, but such conditions last only a few days. In a locality well-stocked with basswood, such as may yet be found in some parts of Michigan and Wisconsin, there come times when it would be practically impossible to overstock the locality. The number of blossoms is so great, and the flow so quick and abundant, that a bee would never have to wait for an opportunity to fill its sac. But such flush times as these last only a few days, and during the rest of the year it is possible to overstock the locality.

The only practical course I can see in this matter is for each man to keep a careful record, year after year, of his yields of honey, and of the number of colonies that he has, also of the yields in other apiaries that are near his own and in which the conditions are similar. The conditions vary so greatly even in a few miles, and with the different years, that the best any man can do is to arrive at an approximate nearness to a decision; and, even then, there is likely to come an occasional year that will upset all previous decisions. Mr. Alexander's experience is certainly out of the ordinary, but I think it was all right to publish it, because there may be others situated just as he is and *don't know it*. If anyone has anything new to offer on this old subject, the Review will be only too glad to publish it.

POPULOUS COLONIES.

They are Needed During the Honey Harvest, and may be Secured by "Shook-Swarming."

If there is one central point around which all else revolves in the profitable production of honey it is that of having colonies with a large number of workers at the opening of the main honey-flow. There may be different methods of securing this condition, but secured it must be, in some way or another, or there is no profit. Editor Morehouse, of the Rocky Mountain Bee Journal, tells of one way in which this may be secured. He says:—

One thing the writer has learned by experience is, the number of bees at work in an apiary, not the number of colonies, is the vital fact to be considered at the opening of the honey flow. The more these forces can be conserved and held together, the better will be the showing on the right side of the bee-keeper's ledger. A swarm, no matter how large, shaken on starters and given ample storing room in the surplus apartment, will not, normally, cast a swarm that season, but will continue gathering and hoarding the treasured sweets the whole summer long. There is profit in such a colony.

Apiaries, say of 100 colonies, as they average at the beginning of the honey flow, ought to have their working forces concentrated into at least 75, or even a fewer number. The weaker colonies should be shaken together on starters and given all the room they can comfortably occupy. The principle is this: The greatest force is needed when the flow is at its best, as it will last but a short time, and rapid work is necessary to take full advantage of it.

Fellow bee-keepers, you who doubt the dictum of this article, try as an experiment this summer, shaking two of your strongest colonies together on starters, give ample storage room, and make note of results. Compare these results with the average of your col-

onies worked separately, and if there is not a percentage in favor of the consolidation plan, write us that it is a fraud and a failure.

The beginning of the honey flow is usually marked by a division of forces (swarming) when the reverse should prevail, if profit is sought through the production of a large crop of honey.

Georgia Queens

"The best is none too good."

Standard bred queens from Hall's strain of superior, golden, improved, 5-banded, leather-colored, and Carniolan stock. They are bred for business, as honey gatherers, by the best known methods. See how they please customers: –

KANSAS CITY, MO., Mar. 12, 1904

Mr. T. S. Hall,

Dear Sir—Enclosed please find $1.00 for one of your Italian queens, to be sent sometime in April. The one I got of you last year proved very satisfactory.

Yours truly, Geo. C. Hall.

Uhtested queens, either strain, before July 1st, $1.00 each; six for $5.00; twelve for $9.00. Tested $1.50; select tested, $3.00; best, $5.00

After July 1, untested, 75 cts.; six for $4.00; twelve for $7.00. Tested, $1.25; select tested, $2.50; best $5.00.

Full colony with tested queen, $6.00. Three-frame nucleus, $2.00; two-frame nucleus, $1.50. No queen at these prices—add price of queen wanted.

Selected, purely mated queens, mated to select drones by our new system of mating, $1.25.

Discounts on all large orders. Send for descriptive circular. *T. S. HALL,*

4-04-1t Jasper, Pickins Co., Ga.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. We have had 21 years of experience in queen rearing, and our queens are all reared by up-to-date methods. Untested, 75 cts. each, or $8.00 a dozen; tested, $1.00, or $10 00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3 50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular. G. RONTZAHN,

4-04-6t Biglerville, Penn.

Choice Queens

For 1904

We are again offering queens of the best stock obtainable. Untested queens, Golden, Leather Colored, or Carniolan, warranted pure, 75 cts each, or $7 50 a doz. Tested, $1.25 each, or $12 per dozen.

Geo. J. Vande Vord

4-04-tf Daytona, Florida.

The Best In BEE SUPPLIES

LEWIS

Goods for Sale all Over the World. Wherever you are we can reach you. We Have These

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C. M. Scott & Co , Indianapolis, Ind. 1004 E. Washington St.
Colorado Honey Producers' Ass'n. R.C. Aikin, Mgr., Loveland, Colo.
The Arkansas Valley Honey Producers' Association (Incorporated) Rocky Ford, Colorado

G. B. LEWIS CO.

WATERTOWN

Wiconsin, U. S. A.

The Queen Mother

And her quality is what your surplus depends upon. Knowing this, we use extra care in the selection of our breeding stock. Selected queens are given one year's trial in our out-yards, and those only are used for breeding that have shown a marked superiority in the yield of surplus honey.

Tested and untested queens and nuclei are now ready for shipment. Send for 64-page catalog giving prices on bees, queens, hives, and other supplies.

J. M. Jenkins, Wetumpka, Alabama

4-01-2t

I Can Sell Goods Cheaper

Than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small, country town where labor is cheap; I have new, up-to-date, labor-saving machinery run by water-power—the cheapest power in the world. Not only will I sell goods cheaper but ***I Will Pay the Freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering,

W. H. Putnam, River Falls, Wis.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04 tf

J. B. Case, Port Orange, Fla.

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In every community, to whom can be turned over each month expiring subscriptions for renewals; also to secure new subscriptions on a special plan which insures the bulk of the magazine business wherever our propositions are presented. Magazine reading is on the increase. Where one magazine was subscribed for ten years ago, five are taken today. Hundreds and sometimes thousands dollars are paid out annually in every community for new subscriptions, and in renewing old ones. The Success Clubbing Offers secure "the inside track" in getting this business. Our representatives renew from 70 to 90 per cent. of subscriptions on the expiring lists furnished. Write today

THE SUCCESS CO., Wash. Sq., N. Y.

Bee Journals *For Sale:* In a good state of preservation, Review for the years '88, '89, '90, '91, '92, '93, '94, '95. '98, '99, '02 and '03; Canadian Bee Journal, Vols. 6, 7, 8 and 9 of old series, and Vols. 1, 2, 3, 5, 6, 7, and 8 of new series. American Bee Journal, Vols. 33 and 34. American Bee-Keeper, Vol. II. Prices on application. S. McDonald. Muirkirk, Ont., Can.

A

Radical Change

There has been a complete change in ownership and management with the

Minnesota Bee-Keepers' Supply Co.

That change extends to the manner of filling orders, and the general treatment of patrons. We don't desire to make business out of our friends—we want to make friends out of our business.

Made some changes in the machinery line, too. We are turning out the finest hives we ever saw—you'll say so, too.

Can't promise much on section-orders unless they are put in soon—running short on material,

Keep your eye on this space—we're going to tell you some interesting things month after month. 4-04-1t

The Minnesota Bee-Keepers' Supply Co,,
(John Doll & Son)
Minneapolis, Minnesota.

I understand that the Santa Fe will sell one-way colonist tickets to

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during March and April at very low rates:

$33 *from Chicago and* **$25** *from Kansas City*

Please advise me full Particulars

Name.....

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ALL THE WAY

Cut out this advertisment and mail to
Gen. Pass. office, A. T. & S. F. Ry., Chicago.

TWENTY YEARS
OF
Careful Breeding

In regard to the origin of my strain of Italians, I would say that they were developed by selection and crossing. The first Italian queen that I ever possessed was of the Thos. G. Newman stock. The next was of A. I. Root's red-clover stock; purchased in 1881. In 1882, I purchased one of friend Root's best imported queens, for which I paid $6 00. She was a valuable queen, indeed; producing workers which were hardy and regular hustlers for gathering honey. I stocked my apiary with her daughters, saving only a few queens of the other stock to furnish drones. This gave me a direct cross, which, I think, is the secret of my success.

In 1883 I found one of the daughters of the Root imported queen far out-stripping everything in the yard in the way of honey-gathering and comb-building; and her bees capped their honey so white that it made it appear the most beautiful comb honey I ever saw. In this queen I had an acquisition. I used her as a breeding queen. Her bees were not as handsome as the Newman stock; but beautiful HONEY attracted my eye and pocketbook more than fancy bees.

If you wish for a strain of bees that are really "Superior," and at a much lower price than sold by Mr. Hutchinson, send for the handsomest queen circular that was ever printed.

J. P. MOORE
Morgan, Kentucky

SEED POTATOES
500,000 BUSHELS
FOR SALE CHEAP

Largest seed potato growers in the world!
Elegant stock. Tremendous yields.
From 400 to 1000 bushels per acre.

FOR 10 CENTS
and this notice we send you lots of farm seed samples and big catalogue, telling all about Teosinte, Speltz, Peaoat, Aerid Land Barley, Macaroni Wheat, Bromus, Earliest Cane, etc. Send for same today. F.

JOHN A. SALZER.
SEED CO. LA CROSSE, WIS.

Tennessee
QUEENS

Daughters of select, imported Italians, select long-tongue (Moore's) and select golden, bred 3¼ miles apart, and mated to select drones. No impure bees within three and only a few within five miles. No disease—31 years of experience. All mismated queens replaced free. Safe arrival guaranteed.

	Prices before July			After July 1		
	1	6	12	1	6	12
Untested.....	$ .75	4.00	7.50	$ .60	3.25	6.00
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Tested.....	1.50	8.00	15.00	1.25	6.50	12.50
Select tested..	2 00	10.00	18.00	1.50	8.00	15.00

Untested queens ready April 20th

JOHN M. DAVIS

4-04-3t Spring Hill, Tenn.

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr.	May	June	July and after
One Untested,	$1.00	$ 90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

Please mention the Review.

Queens by Return Mail: I am in the "Sunny South" and I can fill orders *now*, no matter how large. I can furnish either the three- or the five-banded Italian Queens, untested, at $1.00 each, or six for $5.00. Tested, $1.25 each, or six for $7.00. Breeders, yellow all over, $3.00 each. Sold 1,800 queens last year. Safe arrival guaranteed. 4-04-tf

DANIEL WURTH, Karnes City, Tex.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Our $10,000 Bee-Keepers' Supply Manufacturing plant is ready for business. Send for price list.

MONDENG MF'G. CO., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

Texas Queens

From the *Cotton Belt Apiaries* are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

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FOR

MARCH AND APRIL

No. 1 Sections, $4.00; No. 2, $3.50, Plain Section 25 cts less. Dovetailed Hives, 8-frame, 1½ Story, in lots of 10, $1.25 each; lots of 20, $1.15 each; lots of 50, $1.10, 10-frame for 15 cts more per hive. The Poor Man's Hive, rabbeted, $1.00. Foundation, Smokers, Frames, etc., in stock. Price list free.

W. D. SOPER,
3-04-tf R. F. D. No. 3, Jackson, Mich

Beekeepers' Supplies

and Queens for sale by W. B. VAUGHAN
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3-04-3t 45 Smith, St.

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New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

Gleanings in Bee Culture

Established 1873 Semi-Monthly $1.00 a Year

The most fully illustrated bee journal published.
Reliable quotations of the beeswax markets.
Reliable quotations of the honey markets.
No medical or fake advertisements.
More than 1,000 pages annually.

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Notes of Travel by A. I. and E. R. Root.
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Special Offers:

1. Sample Copy	Free
2. Six Months' Trial	$ .25
3, Gln'gs 1 yr. and Unt. Ital. Queen, (Apr., May or June)	1.00
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5. Gleanings 1 yr. and Langstroth Revised, postpaid,	2.00
6. Gleanings 1 yr. and Doolittle's Queen Rearing, postpaid,	1.50
7. Gleanings 1 yr. and Corneil Smoker, postpaid,	1.50
8. Gleanings two years	1.50
9. Gleanings three years	2.00
10. Gleanings five years	2.50

The A. I. Root Co., Medina, Ohio.

The Beekeepers' REVIEW

For 1904

THIS issue of the Review is a fair sample of what it will be for the rest of the year—yes, and of what it has been for the last few months. The Review does very little threshing over of old straw, generalizing, or uttering of platitudes. It takes up new, bright, lively,

Helpful Subjects.

A more simple, cheaper and better method of feeding bees has never been invented than that described in this issue by Mr. Alexander. If judiciously followed it would often result in a crop where none would be otherwise secured. Getting the bees started in the sections early in the season is one of the most important steps in comb honey production. Closing the season with most of the sections finished is another important factor. See how completely it can be managed by the methods described by Jas. A. Green. Managing large numbers of bees in out-apiaries, for comb honey, and yet having no swarming, was once thought an impossibility, yet see how completely Mr. Gill has solved the problem. These are the kind of articles that are published in the Review. In short, the Review was never more fully equipped, in every way, than at present, for helping bee-keepers; and it will use all of these advantages the present year in taking up and discussing two of

The Most Important Subjects

connected with bee-keeping, viz., the production of large quantities of honey, cheaply, and the selling of it at a high price. The first few issues of this year will be especially devoted to the discussion of the first-mentioned topic, then, in July or August, marketing will be taken up and continued through the year. I do not mean that other important matters will not be touched upon, but that special attention will be given to these two.

For instance, last year, Mr. F. E. Atwater, of Boise, Idaho, with only one helper,

Managed 11 Yards

scattered from seven to eighteen miles from home, and in the January Review he had a long article describing the hives, implements, and methods, that enabled him to accomplish this feat.

Mr. E. D. Townsend of Remus, Michigan, is

The Most Extensive Apiarist

in this State; managing out-apiaries with the least possible amount of labor, much of it unskilled at that, and making money out of the business, and he is telling the readers of the Review

"how he does it." Four articles from his pen have already appeared, and there are three more on hand. More will follow on marketing and wintering. All of his writings are practical, like the one in this issue, which so graphically describes the most important feature of extracted honey production—getting the combs of honey from the hive to the honey house. Last month he described

A Portable Honey House

12x16 feet in size, costing only about $40, yet it can be taken to pieces by sections, loaded on a wagon, and four men can set it up in an hour.

Another correspondent, over which the Review is congratulating itself, is Mr. E. W. Alexander, of Delanson, N. Y. He has had 50 long years of experience with bees. His locks are white, but his eyes are bright, his step elastic, and he still has the enthusiasm and fire of youth. The first of a series of articles from his pen appeared in the last Review, and contained some most radical views on

Overstocking.

We have been led to believe that about 100 colonies were the profitable limit for keeping in one apiary. Perhaps this is true in many, if not most, localities, but, if many more than this *can* be profitably kept in one apiary, it would greatly lessen the expenses. Mr. Alexander has been experimenting along that line for several years. Last year he had 700 colonies in his home-yard without lessening his yield. This year he expects to increase the number to 1,000. His experience and views on this subject are certainly worth considering.

Mating 300 Queens

by using the bees of only one colony would seem to be an impossibility, yet W. H. Laws, of Beeville, Texas, has been, for the last year, practicing a method that not only enables him to do this, but allows of the introduction of virgin queens that are from five to seven days old, avoids all trouble from fertile workers, prevents loss from absconding, and queens may be mated in a locality free from objectionable drones. This method is illustrated and described in the last issue of the Review.

Sold 20,000 lbs.

When it comes to the marketing, I have on hand an article by Mr. H. C. Ahlers, of West Bend, Wisconsin, in which he tells in detail how he has built up a trade in selling extracted honey direct to consumers, in which he last year sold 20,000 pounds, and most of it at *12 cents a pound!*

The Home-Market

is something that many of us have neglected as too small to be worth noticing, especially if it is only a small town, but our energetic General Manager of the National Association, Mr. N. E. France of Platteville, Wisconsin, manages to sell about 8,000 pounds a year, if I remember aright, in his little home-city, of only 4,000 inhabitants. He does no peddling, it is all sold at the groceries, butcher shops, and the like, and he so manages as to get eight cents a pound for it. What that management is, how the honey is put up, the package, in fact the whole *modus operandi* will be described by Mr. France in the Review, long ere the time comes to put this year's crop on the market.

A Honey-Route,

in something the same line as a milkman has a route, has been inaugurated and put in practice for several years by Mr. C. F. Smith, of Cheboygan, Michigan. There is no peddling about it. On certain days, except during the busy time of the year with the bees,

Mr. Smith goes over a certain route, calling at certain houses and delivering a certain amount of honey. In this way he sells all of his own extracted honey at 13 cents a pound, and then buys and sells thousands of pounds besides. How the honey is put up, how the route was established, how he knows at which houses to call, and how much honey to bring, etc., will be told to the readers of the Review in an article that Mr. Smith is now preparing with much care as to detail and helpfulness.

So much in the way of retailing honey, and we now come to the subject of selling honey direct to retail dealers, instead of sending it to commission merchants who, in turn, sell to the retailers. This is

A Big Field,

and one that has been little worked, but I have found a man who has had a lot of experience in this line, Mr. S. A. Niver, formerly of New York, but now of Chicago. For several years, quite a number of extensive bee-keepers near Groton, New York, turned their crops of comb honey over to Mr. Niver, who graded and crated it, and then packed a case with samples, and went out as a "drummer," selling direct to the retail trade, going over the same ground more than once, taking orders and collecting for the honey. I have an article from Mr. Niver telling of his success. It is long, readable, full of humor, and of suggestions for some man to go and do likewise. Mr. Niver is now at work preparing an article on retailing honey to city customers.

The foregoing are only a few of the good things that are in store for the readers of the Review—these are given simply as samples. The prospects for

Making Money

in bee-keeping were never brighter for the man who will arouse himself, wake up to the changed conditions of things, and take advantage of the changes. One thing is certain, if you are a bee-keeping specialist, if bee-keeping is your *business*, you can't afford *not* to

Read the Review.

It will lead you, and encourage you, and fill you with ideas, and tell you how to do things—show you how to enlarge your business and *make money*.

Send $1.00 for the Review for 1904, and long ere the year is out you will admit that it was the most profitable investment you ever made.

W. Z. HUTCHINSON

Flint, Michigan

NORRIS & ANSPACH Kenton, OHIO.

Manufacturers and dealers in bee-keepers' supplies. Jobbing agents for the G. B. Lewis Co., of Watertown, Wis. We handle a complete line of their goods, at regular, catalog prices. Dovetailed Hives, Triumph Hives, Sections, Smokers, Veils, Honey Cases, in fact, everything for the bee-keeper. Frst-class goods, prompt shipments. Special prices on large quantities.

4-04-3t Please mention the Review.

Bee-Keepers

It is a conceded fact that the bulk of the honey of the future is going to be produced in the irrigated portion of what is known as "Arid America." If you are interested in the progress of apiculture in this vast region, you should subscribe for the

Rocky Mountain Bee Journal,

a twenty-page monthly; price 50 cents per year.

This is now the only bee publication west of the Missouri river. We have several hundred eastern subscribers, and have still room for more. Write for free sample copy. Address

H. G. Morehouse
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Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

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3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Marketing

Of honey is fully as important as its production. To produce a crop of honey cheaply, and to sell it to the best advantage, are distinct processes.

Whether honey should be sent to a distant market, whether sold outright or on commission, whether the home market can be profitably developed, whether the bee keeper should sell the honey himself, or employ some one, the peddling of honey, etc. are all thoroughly discussed in one of the chapters of "ADVANCED BEE CULTURE." Remember, too, that this is only one chapter out of 32.

Price of the book, 50 cts.; the Review one year and the book for $1.25. Stamps taken, either U. S. or Canadian.

W. Z. HUTCHINSON, Flint, Mich.

THE BEST BEE-GOODS

In the world are no better than those we make, and the chances are that they are not so good. If you buy of us you will not be disappointed. Our Air-spaced Hive is, undoubtedly, the best winter-hive made. Convenient as a single-walled hive. Upper story, bodies, supers, covers and inside material interchangeable with Dovetailed Hive. Fully described in catalog. Send for new catalog and price list; and free copy of the AMERICAN BEE-KEEPER; in its thirteenth year; 50 cents a year; especially for beginners.

The W. T. Falconer Manf'g Co.

JAMESTOWN, NEW YORK

Wm. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save freight.

IT PAYS TO BUY

Standard Bred Queens.

We have them true to name.
Buckey strain 3-banded Italians.
Golden Italians.
Carniolans.

We guarantee safe arrival. Ready to mail April 15th.

PRICES.

	One	Six	Twelve
Untested,	$ .75	$4.00	$7.50
Select	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00

Select Breeders $3.00

The Fred W. Muth Co.,

51 Walnut St., Cincinnati, Ohio. 3-04-8t



QUIRIN The Queen BREEDER

Has a strain of Italian bees in which prolificness and honey-gathering are developed to a high degree. His location furnishes a continuous honey-flow throughout the season, while the broad, extended prairie surrounding his yard allows of no undesirable drones in bee-trees. He expects to keep on hand from 600 to 1,200 queens, and be able to fill orders by return mail, guaranteeing safe arrival, at the following prices ;—

	Before July			After July 1st		
	One	Six	Twelve	One	Six	Twelve
Select	$1.00	$5.00	$9.00	.75	$4.00	$7.00
Tested	1.50	8.00	1.00	1.00	5.00	9.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00
Breeders	4.00			3.00	15.00	
Straight five-banded breeders	6.00			5.00		
Two-frame Nucleus, no queen,	2.50	14.00	25.00	2.25	12.00	22.00
Full colony, on eight frames,	6.00	30.00		4.00	22.00	

Send for Circular giving many particulars that lack of space forbids mention here. ***FOLDING CARTONS*** at only $4.00 M, so long as present stock lasts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular. J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

The Rural Bee-keeper,

A monthly Bee Journal devoted to the interests of the bee - keepers of the Northwest, and one that will teach you how how to make money.

The first issue contains valuable information for beginners, by Harry Lathrop, A. D. Shepard, M. V. Facy, and others. Shook Swarming, or how to control the swarming impulse, by W. Z. Hutchinson. Co-operation among Bee-Keepers, by Walter R. Ansell. The Provost Marshall in the South African War, by Captain Thomas, who is a subject of King Edward. The Home - Department, by Mrs. Effie Brown. The report of the Annual, Wisconsin Bee - Keepers' Comvention.

These are some of the interesting subjects that will be found in the first number, which will issue from the press about April 10th. Advertising forms close the 20th of the preceding month.

We are now at work on the May number, and can assure you that the second number will be more valuable and interesting than the first.

It will be the purpose of The Rural Bee-Keeper to champion the cause of the small, County bee-keeper, to show him how to make money out of bees. First, it will show him how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense. Later it will show him how to cash his crop.

Subscribe now. Begin with the first issue, and get fifty dollars worth o good, sound information in one ye only fifty cents.

V. H. Putnam,

River Falls, Wisconsin.

Capt. J. E. HETHERINGTON'S

Bees for Sale Six hundred colonies from the Virginia apiaries belonging to the estate of the late Capt. J. E. Hetherington. These bees are Carniolans, bred from carefully selected queens, are perfectly healthy, and in the Hetherington-Quinby hive. They have had the personal care of Capt. Hetherington. For further information address H. B. HETHERINGTON,
4-04-1t Hardesty, Warren Co., Va.

Please mention the Review.

Root's Goods FOR IOWA

And the Best AT Root's Prices.

For 18 years I have been in the supply business, and I have just now completed a

New Building

Filled with the largest stock of supplies ever carried in the West. I am centrally located, have every convenience for handling business with dispatch, and my shipping facilities are the best. Write for catalogue.

Jos. Nysewander,

565 and 567 W. 7th St.

Des Moines, Iowa.

Marshfield

MANUFACTURING CO.

Marshfield, Wisconsin, makes a specialty of **Sections,** and they are the best in the market. Wisconsin basswood is the right kind for them. They also have a full line of **Bee - Supplies.** Write for free, Illustrated Catalog and Price List.

3-04-4t

Hilton.

Geo. E. Hilton, Fremont, Mich., has in storage, awaiting your order, Four Carloads of standard goods, such as Danzenbaker Hives, Root's Dovetailed Hives, Roots Chaff Hives, Hilton Chaff Hives and T-Supers, Cowan Extractors, Corneil smokers, Doolittle Wax Extractors, Weed Foundation, Section Boxes, Etc. 36-page Catalog free.

3-04-3t Please mention the Review.

It Pays to send your orders a distance of 10,000 miles for your bee-supplies to R. H. Schmidt & Co. Send for new catalog today.

R. H. SCHMIDT & CO.

2-04-12t Sheboygan, Wis.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids,
Agents for Michigan

3-04-10t

G. B. LEWIS SECTIONS

These sections are the best in the world, and I am prepared to handle them in Canada. I also keep in stock all kinds of bee-supplies. I am running two yards of 300 colonies each, and I want a good man to take charge of one of them. They are run for comb honey. None but a good man need apply.

I am also breeder of S. C Black Minorcas, all imported stock from England and Scotland, 15 eggs for $1.00. B. P. Rock, Beadley Thompson and Leffell Conger Strain, 15 eggs for $1.00. Beeswax wanted.

N. H. SMITH,

2-04-1t Lock Box A. Tilbury, Ont. Can.

Please mention the Review.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—The honey market is heavily stocked, and dull; but beeswax is firm. We quote as follows:—Fancy white, $2.25 to $2.50 per case; No. 1, $2.25; white, extracted, 5½ to 6c; beeswax, 30c.

WALKER-BREWSTER GROCER CO.,
Mar. 30 423 Walnut St. Kansas City, Mo

CINCINNATI—The demand for honey is brighter than it has been in the past sixty days. We continue to offer Amber Extracted in barrels at 5½ to 6½ cts, according to quality. White Clover Extracted is a drag on the market at 6½c to 8 c in barrels and cans. Comb honey seems to be reviving at 13½c to 15c for fancy. Beeswax is wanted by us at 30c per lb delivered here.

THE FRED W. MUTH CO.
March 29 Cincinnati, Ohio.

BUFFALO—Honey can only be made to move by cutting prices sharply on all grades. Stocks are not heavy but they drag. Still we can move them moderately at quotations, which are as follows:—Fancy white, 12 to 13c; No. 1 white, 10 to 11c; fancy amber 9 to 10c; No. 1 amber, 8 to 9c; fancy dark, 8 to 8½c; No. 1 dark, 7 to 8c; beeswax 25 to 32c.

BATTERSON & CO.
March 29 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—The season for selling honey has been prolonged on account of the cold weather, which has certainly been very fortunate for the bee-keeper, as there never was as much honey shipped in so late in the season to be disposed of. It has broken the price quite considerably, but there is still quite a demand, which otherwise would have fallen off. We quote as follows:—Fancy white comb, 13 to 14c; No. 1, 12c; amber and buckwheat, 9 to 10c; Extracted buckwheat, 7 to 8c; amber, 6 to 7c; beeswax 31c and in good demand. We are producers of honey and do not handle on commission.

WM. A. SELSER.
March 30 10 Vine St. Philadelphia, Pa.

CHICAGO—The market is heavily supplied with comb and extracted, neither of which are meeting with any demand; especially is this true of the comb honey. Prices are uncertain, as those having stock are anxious to sell it; therefore, it is difficult to quote prices. The best grades of white comb bring 11 to 12c, anything off, from choice to fancy, is not wanted. Extracted white, according to quality, sells at 6 to 7c; amber, 5 to 6c; beeswax 30 to 32c.

R. A. BURNETT & Co.,
April 7. 199 So. Water St., Chicago, Ills.

NEW YORK—Market is quiet on comb honey, with plenty of supply of all grades. Beeswax firm and scarce. Extracted in fair demand. We quote as follows: Fancy white, 14c; No. 1 white 12 to 13c; fancy amber 11c; No. 1 amber, 10c; fancy dark, 9c; white, extracted, 6½ to 7c; amber, 5½c; dark, 5c; beeswax, 29c to 30c.

HILDRETH & SEGELKEN,
265 & 267 Greenwich St., Cor. Murray St.
March 8. New York.

CINCINNATI, OHIO—The honey market continues to be dull; if anything, the prices on comb honey are lower, and concessions are made on bigger lots. I quote fancy white comb from 12½ to 14c. Sales on extracted are made at the following prices: Amber, in barrels, 5¼ to 5¾c; in cans ½c more. Alfalfa, water white, 6 to 6½c; strictly white clover, for extra fancy, 7½ to 8c. Beeswax, 30c.

C. H. W. WEBER,
March 30 Cincinnati, Ohio.

CHICAGO—We have nothing interesting to report relative to market on honey, from what we stated in our last quotation. Our stock is cleaned up pretty well. If producers have any honey unsold we would advise letting it come forward, as we are in a good position to take care of it. We quote as follows:—Fancy white, 11½ to 12½c; No. 1 white, 10 to 11½c; No. 1 amber, 9 to 10c; white extracted, 6 to 7c; amber, 5 to 6c; beeswax, 32c.

S. T. FISH & CO.,
March 30. 189 So. Water St., Chicago, Ills

KANSAS CITY, MO.—It is now getting quite late in the season, and there is still a heavy stock of honey held in Kansas City. The movement on both comb and extracted honey is very, very slow, especially on the latter, and the demand seems to have dropped off entirely. We quote as follows:—Fancy white, $2.25 a case; No. 1, $2.10; No. 1 amber, $2.00; white extracted, 6c.

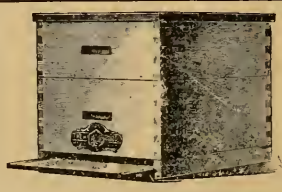
C. C. CLEMONS & CO.
March 30 Kansas City, Mo.

ALBANY, N. Y.—The honey market is dull and it looks as if some would have to be carried over the season. A large portion of the stock is candied hard in the comb, from the long, cold winter. We quote as follows: Fancy white, 13 to 14 c; No. 1 white, 12 to 13 c; fancy amber, 11 to 12 c; No. 1 amber, 10 to 11c; fancy dark, 11 to 12c; No. 1 dark, 10 to 11c; white extracted, 6 to 6½c; amber extracted, 5½ to 6c; dark extracted, 5 to 6½c; beeswax, 28 to 30c.

H. N. Wright,
Wholesale Commission,
April 1 Albany, N. Y.

THE VOICE OF THE PEOPLE

DANZENBAKER'S HIVE.



MORE HONEY. BETTER PRICES.

WE HAVE TOLD YOU SOME THINGS

—ABOUT THE—

DANZENBAKER HIVE

FOR COMB HONEY.

NOW SEE WHAT OTHERS SAY.

MORE HONEY.

UNION BRIDGE, MD., Feb 9, 1901

The A I Root Co., Medina O

Gentlemen.—I saw in a recent issue of your paper that you have a department called "Reports Encouraging." I shall send you my report.

I use the Danzenbaker hive and will give you report of the same, as the few dovetailed hives that I use do not compare at all with the Danzenbaker One colony gave me over one hundred pounds No 1 white honey and the rest averaged about sixty, with an increase by natural swarming of one hundred per cent A friend of mine who uses all sorts and kinds of hives in his apiary succeeded in making scarcely enough honey to pay for the foundation used in the sections This was about two miles from my apiary Long live the Danzenbaker hive It is just the thing for this locality

Yours truly,

J B HOLLOPETER

MORE HONEY.

MALLET CREEK, O., Sept 25, 1902.

I have now 230 colonies of bees, of which 170 are in the Danzenbaker hives, and shall have all my bees in Danzenbaker hives next spring During this past poor season, 30 or 40 of the colonies in the Danzenbaker hives gave over 100 lbs surplus. On the average I get more than double the amount of honey from these colonies that I do from those in the old chaff hives With a 7-inch telescopic cover, the Danzenbaker hive winters the bees better than the chaff hives

VERNON BURT

MORE HONEY AND BETTER PRICES.

I have used both square and tall sections in all my apiaries five years, and know from practical experience that it will pay to discard the 4½ sections, and use only 4x5 sections, and the Danzenbaker hive with the fence separator Tr ey have made enough more this season in the same yard to pay for the hives I have made *more money* this season per hive than I have any previous year in my 15 years of bee-keeping Fifteen of my strongest Danzenbaker hives made me a ton of honey When it comes to sales I get more for the 4x5 sections, and have no work in cleaning them I ship them as I take them from the super This is not the case with the 4½ section I make honey to sell, and anything that sells the best, and for the most money, is what I want out of the bee-business.

S D. MATTHEWS.

In Gleanings, p. 931, Dec. 15, 1899.

MOUNTAIN VIEW, N J., Oct 6, 1897

I have run my hives largely with the Danzenbaker sections this year, and shall increase my facilities for the Danzenbaker output next year. I sold all my fancy clover in Danzenbaker sections, glazed, to two fancy grocers in New York, at 20 cts a section were retailed at 25 cts each. My 4¼ sections, unglazed, sold to grocers at 12½ to 13 cts., retailing 16 cts. I furnished cartons with the 4¼, which cost nearly as much as glass.

B. F. ONDERDONK

BETTER PRICES FOR DANZY. HONEY.

ROCK VALLEY, N. Y., Feb. 22, 1901

My bees gathered no surplus after July 1 I had only 1200 lbs., but I obtained a fancy price—15½ for "Fancy" and No. 1 white, and 13½ for No 2 here at my station for all the Danzenbaker 4x5 plain sections, used on your hives, while I got only 11 and 13 cts per lb for the 4¼x4¼ square sections, and I consider that much difference is worth looking after—don't you? The Danzenbaker hives doubled up, two brood-chambers, are in fine condition, even better than my double-walled hives. I intend to build a bee-cellar and work off my double-walled hives as fast as I can, and get the Danzenbaker hives. Very truly yours,

J L. HAIGHT

It is not claimed that so large an advance in price as is mentioned above can usually be obtained for honey in Danzenbaker sections, but because it is more uniformly fancy grade, and of general better appearance it commands the highest prices and a more ready sale in a dull market than ordinary honey

A RECENT ORDER.

INDIANAPOLIS, IND., Feb 3, 1901

The A I Root Co., Medina O

Dear Sirs —Please ship to me as soon as convenient 500 Danzy AD6¼M hives Yours,

WALTER S POUDER

(This is in addition to all other orders.)

64-PAGE BOOK.

Mr Danzenbaker's little book, "Facts About Bees," containing 70 pages, giving full particulars regarding this hive and system, is to be had full of facts. If one follows the directions clear through, he is sure to produce a strictly first class article of comb honey, providing of course there is any honey to be had. This unique little book will be sent free to all who apply for it

SPECIAL NOTICE.

Bee-keepers are raising honey for the money there is in it, or for the pleasure they get out of it. It is conceded by all who have tried this system that it is highly profitable Reading over letters from the users of this hive who tell of securing large crops of honey almost free from propolis makes us think that the bee-keeper who is in the business for pleasure would be highly gratified with the hive also. What is more satisfying than to take off well-filled supers of snow-white sections free from the propolis that is so often found on sections in cases that are poorly constructed and adapted for the production of a fancy article?

The great popularity of the Danzenbaker hive has brought the shallow brood-frame and the tall plain sections into prominence. It must be remembered that no other hive contains the essential features of the Danzenbaker. The success of this system depends on having everything just right, so you should place your order for the Danzenbaker hive with our main office, or any of our branches or regular agents

THE A. I. ROOT COMPANY,

Main Office and Works, Medina, Ohio, U. S. A.

BRANCHES:

CHICAGO, ILL., 144 East Erie St.
MECHANIC FALLS, ME.
SYRACUSE, N Y
PHILADELPHIA, PA., 10 Vine St.
ST PAUL, MINN., 1024 Miss St.
HAVANA, CUBA, San Ignacio.
San Antonio, Tex., 438 W. Houston.
Washington, D. C., 1200 Md. Av., S W

BRANCHES:

Prothero & Arnold, DuBois

PENNSYLVANIA

Are handling *Root's Goods* in car loads, at factory prices—wholesale and retail. The best of shipping facilities.

3-04-4t Please mention the Review.

Boston

3-04-3t

Mass., at 182 Friend St., is where F. H. Farmer sells ROOT'S SUPPLIES Send for free catalogue. Telephone

MAY, 1904.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 196.

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, May 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1 00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rocky Mountain Bee Journal	(1 00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1 85
The Century	(4.00)	4 50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1 75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3 15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee - Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership, $1.00.

Send dues to Treasurer.

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C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.	182	N. C.	60
Ark.	82	Kans.	350	New Mex.	56
Ala.	80	La.	38	Oregon	104
Calif.	378	Mo.	500	Ohio	1300
Colo.	228	Minn.	334	Penn.	912
Canada	1200	Mich.	1770	R. I.	46
Conn.	162	Mass.	275	S. C.	40
Dak.	25	Md.	94	Tenn.	176
Del.	18	Maine	270	Tex.	270
Fla.	100	Miss.	70	Utah.	68
Ga.	90	N. Y.	1700	Vt.	200
Ind.	744	Neb.	345	Va.	182
Ills.	1375	N. J.	130	W. Va.	172
Iowa.	800	N. H.	158	Wash.	128
				Wis.	625

W. Z. HUTCHINSON, Flint, Mich.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

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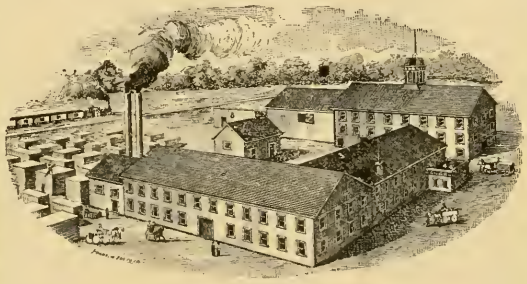
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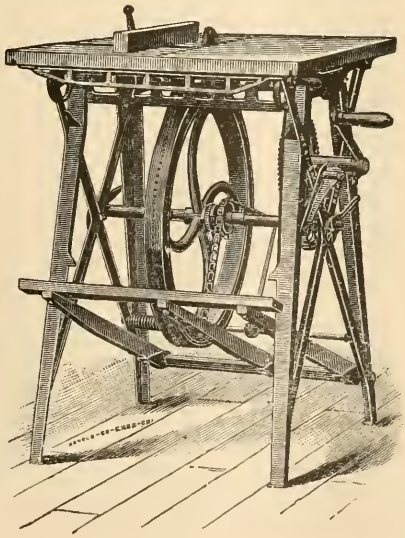
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These are some of the interesting subjects that will be found in the first number, which will issue from the press about April 10th. Advertising forms close the 20th of the preceding month.

We are now at work on the May number, and can assure you that the second number will be more valuable and interesting than the first.

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Out-Apiary of E. D. Townsend, Remus, Mich.—Managed on the Shook-Swarming Plan.

The Bee-Keepers' Review.

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Devoted to the Interests of Honey Producers.

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W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, MAY 15, 1904. NO. 5.

Shook-Swarming and Michigan's Uncertain Weather.

BY E. D. TOWNSEND.

SEEING that I have begun to tell how I do my work in producing extracted honey, it seems a pity to break the thread of the story, but the days of swarming will soon be here, and, if I am to help those who are thinking of starting out-apiaries, and managing them on the shook swarming plan, for comb honey, I must wait no longer.

Let a Michigan man attempt to manage an out-apiary for comb honey, on the Gill-plan, visiting it once a week, and about the first thing that he will realize, as he never did before, is the uncertainty of Michigan weather. In Colorado they can depend upon seven clear days every week, during the honey flow. How different here! Right in the height of the season we are likely to have one, two, or three, or, perhaps, four days of rain. In producing extracted honey, these rainy spells cut no figure; they are simply blanks; and we defer our visits just the number of days it has rained, as the bees have done nothing and there will be nothing for the bee-keeper to do.

How different with comb honey! When bees once begin building cells, and making preparations for swarming, it takes more than a few days rain to change their minds, as one will soon learn, when he commences to work out a non-swarming system.

As I have only one yard that is worked for comb honey on this plan, these rainy spells cut no figure. I visit it the next day after the rain, so if there is any swarming, caused by cells having matured during this ten or eleven days, since my last visit, I will be there to hive the swarms, and to shake any colonies that need it. Now there is established a new date, and the next trip will be a week from this last visit.

HOW MANY APIARIES CAN ONE MAN MANAGE ON THE SHOOK SWARM PLAN, IF IT RAINS SOMETIMES?

I presume, after all that has been written upon this subject, there are many who are contemplating the

adoption of this system in the future; and I also presume that three-fourths of the bee-keepers in the United States live in a location where these spells of rainy weather are likely to come during the honey flow; and they are wondering, with this condition to contend with, how many yards of bees they can handle successfully.

In the first place, I do not think it practicable to work more than one yard a day; that is, with the condition of our roads, and the distances we have to drive between yards. If we have good weather, one experienced hand, with an assistant, provided everything is ready before hand, could, with one visit a week, manage six yards. We will suppose we have our dates all established, and everything working nicely, and then there comes, say, three days storm. Now if we add three stormy days to the six already past, making nine in all, there will be three yards needing us the *next day* after it stops raining. We are now everlastingly behind. We cannot catch up, as we have to work them in rotation, and there will be two yards ahead of us that will be swarming, with the likelihood of more rainy weather any time—not a very desirable predicament to be in I can assure you.

After working one yard for two years on this plan, I think I would not want more than three yards on my hands, knowing the conditions we have to contend with, then we could fix our dates for each alternate day, which would leave a little latitude. That is, if we were caught with a spell of bad weather, we would be able, in a few days, to catch up with our dates.

We will suppose we have our three yards located, and everything in shape, as above, and our dates established to visit them Mondays, Wednesdays and Fridays, if it should rain Monday, Tuesday and Wednesday, we would visit them Thursday, Friday and Saturday, and the next week's visits would fall back on Tuesday, Thursday and Saturday. In this way we would keep our dates on each alternate day, with the visits not more than a week apart, while the only yard that would have its full week would be the Saturday's yard. This would be the best we could do under the circumstances.

WITH COMPETENT HELP, HALF A DOZEN APIARIES MAY BE MANAGED ON THE SHOOK SWARM PLAN.

Lest some one should get the impression from the above that no system could be worked out whereby more yards than three could be profitably worked in this locality, I might add, as Dr. Miller would say, that there would be no law against hiring an experienced hand, and an assistant, and running six or eight yards.

WHEN QUEENS SHOULD BE CLIPPED.

Then there is the clip-queen plan; although with one yard I have never found it necessary to clip. If I had several yards, so that there would be any likelihood of getting behind on account of bad weather, or other causes, by all means, keep all the queens clipped; then if we were a few days late in making our trip, so that some of them swarmed, we would not lose anything unless it might be some queens.

Speaking of loss of queens, reminds me that bees worked on the Gill-plan, for comb honey, are not in condition to raise, and have queens fertilized. In other words, the system does not work well, unless we supply laying queens in case of loss, or in making increase. The old colony (brood), after shaking, consumes so much time developing the cells, that we have what is known as after-swarming, with no one present to hive the swarms. The introduction of laying queens to all queenless colonies, makes this part of the system perfect.

SHOOK SWARMING NOT FAVORABLE TO QUEEN REARING.

I might add, that, with the "new era" queen rearing system, described in the March Review, there is no need of any honey producer of the North buying queens, unless it is breeders, or very early queens; especially as queens sent through the mails are not so good as home-reared ones.

In working for comb honey, I aim to have supers enough filled with sections, furnished with full sheets of foundation, to hold a little more than an average crop. This is on the same principle as when working for extracted honey—the idea is to have supers, or upper stories of combs, to nearly hold the crop, so we can put our whole energy to securing the crop during the honey-flow. After the season, we have plenty of time to harvest, and handle the crop; although, of course, the supers of comb honey are taken off as fast as sealed, and stacked up in the honey house.

ADVANTAGES OF DIVISIBLE BROOD CHAMBERS.

Our comb honey hives are of the Heddon style, only they have ten frames instead of eight, as in the regular Heddon. The bodies and supers are the same, and are the regular, deep, ten-frame supers, shortened up to 16⅛ inches long, by 14¼ inches wide and 5¾ deep, inside, with flat tins nailed on the bottoms of the ends, the tins projecting in ¼ of an inch, for the frames, or pattern slats to rest on. The brood frames are 16 inches long, 5½ deep, outside, and are closed-end with 1⅜ spacing. As the body is 5¾ inches deep, this leaves the regular ¼ inch bee space at the top. To make it into a super, we use seven slats 16x1⅜ x ⅜ inches. These are for the twenty-eight 4x 5x1⅜ inch sections to rest on. Ten fence separators are used, which allows two between the outside row of sections and the side of the super.

One section of this hive is of the same capacity as five Langstroth frames, so that two sections give the same breeding room as a ten-frame Langstroth hive; which is about right for breeding up good sized swarms for the season's work, without the disadvantage of the large hive later in the season.

Some of the advantages of the sectional brood-nest over the regular Langstroth are, first, that as soon as convenient after setting the bees out of the pit or cellar, I can go over the yard and raise up the hives and look in from the bottom, and from any colony that is occupying only one section of the hive, the other section may be taken away, and stored in the honey-house until needed. As the colonies become strong, later in the season, these extra sections are added at the bottom.

It is known that to tear the Langstroth brood-nest to pieces, and confine these puny, little colonies upon a few combs during the spring, with the idea of helping them to breed up faster, is quite liable to be a failure; so much so that many have abandoned it, believing their colonies come out better when left to themselves; our mode of handling weak colonies in the Heddon hive during Spring is as follows:

In the morning, while it is cool, without removing the cover, and with-smoke or any disturbance, I lift off the top section, which contains most of the bees, brood and honey, while an assistant takes the lower section out of the way. Then the little colony is replaced on the bottom-board, with so little disturbance that it seems to do first rate. With this management I think they breed up faster than if left with both sections. Then, later in the season, some are likely to get strong before the honey season opens, and, for fear they will feel crowded,

and, perhaps, get the swarming fever before it is time to put on sections, a third section is added under them. While they will not be likely to breed in this last section, it seems to have the desired effect. This is really the Simmins system of preventing swarming.

Then, some practice contraction of the old colony at the commencement of the season. With the Langstroth frame, the five combs containing the most brood are selected, and a division board placed on each side. The idea is to force or crowd the bees into the sections by using a brood-nest too small to hold all the bees. With the sectional hive how much more easily is this accomplished. All we have to do is decide on the section which has the most brood, set the others on top, smoke out all the bees, set this section of beeless brood on some weak swarm, or where we can use it to the best advantage, and, *presto*, we have it. And the nice part of it is, it is still the *full width hive;* no sections hanging over the edge (over division boards) in the cold.

Supposing you do not practice this contraction plan on the old colonies, this hive still has a great advantage over the single story. For instance, it is natural for bees to store their honey along the top of the hive, between the brood and the top-bar. It is also known that the bees are loth to pass over this sealed honey, and work in the sections; well, at any time of the year, when this condition should arise, with the sectional hive all we have to do is to transpose the two sections of the brood-nest, or, in other words, set the lower one on top. This brings the brood right up *next to the sections*, just where we want it, and with very little work.

Thus far, you will notice, I have handled hives only; not a frame exposed to robbers; the slow, tedious frame-handling system, has been avoided; in other words, we handle the capacity of five Langstroth frames at each manipulation. Later I will tell how to go clear through the season, and raise comb honey on the Gill-plan, without handling a single brood-frame.

REMUS, Mich., March 22, 1904.

Fumigating Black Broody Combs With Formaldehyde.

BY E. W. ALEXANDER.

THERE seems to be quite a difference of opinion regarding the value formalin as a cure for black brood, but I should judge that most of the the failures are the result of not being *half thorough enough* in using it. Having had considerable experience with black brood during the past five or six years, losing, as I have, several hundred colonies, after trying everything I could think of, or hear of, I feel that through the columns of the Review I may give its readers a little good advice on this subject.

FUMIGATING TANK MUST BE PRACTICALLY AIR-TIGHT.

First, don't fool away any time in half-way fumigating. I tried putting three or four hives of combs on top of one another, and fumigating in that way, after closing all cracks as tight-

ly as possible. This did not amount to anything; I might just as well have set my fumigator on the ground, and hung the combs on the limbs of an apple tree. The combs must be in something *air-tight*, or as nearly so as possible. I finally used one of my large honey tanks, such as I use to keep my extracted honey in before I put it into barrels. These tanks are lined with the heaviest kind of tin, and hold over 4,000 pounds of honey. I made a cover of matched lumber, and three sheets of tarred building paper, putting them together with paint. This was clamped down to the top of the tank by means of heavy rods, reaching down through timbers under the bottom of the tank. Racks were make to fit the inside of the tank, on which I could hang the combs of about 35 hives, and not have the combs touch one another. I made a ¾ inch hole in each end of the cover; one in which to insert the rubber hose which conveyed the gas into the tank, the other to let the air escape as the gas entered. Into my gas generator I then put two quarts of the best formalin that I could buy, setting it upon an oil stove, and lighting the wicks. After it had boiled about half an hour the gas commenced to escape from the hole in the other end of the cover, and I then plugged up that hole and kept the lamps burning about five hours, or until all the formalin in the generator had been turned into gas. I then left it shut up air-tight until the next day, when I put in another quart and turned that into gas. I then left it four or five days, after which I opened the tank, but I had to leave it open a day or two before I could take the combs out, as the gas was so very strong. In this way I have during the past summer, fumigated over a thousand of the worst combs that I could find in an apiary of nearly a thousand colonies; and, although some of them contained a little capped honey and brood, I have since seen no trace of the disease after putting bees on them.

IMPORTANCE OF ITALIAN BEES AND YOUNG QUEENS.

Yes, my friends, I think formalin is all right; but there must be no child's play in using it.

There is another way which gives good results in handling this disease, and that is, as soon as you find a colony affected, remove the queen; then, in nine days, destroy all queen cells and give a choice virgin just hatched. I have done this with about 100 colonies, and, for two summers after, have not been able to find a trace of the disease in colonies so requeened. When the bees have a young queen about ready to begin laying, they will clean their combs up better than they will at any other time.

This treatment, remember, all through, is for the best strains of *Italian bees*. I would not bother with any other in trying to fight a disease like Black Brood.

DESTROY ALL COMBS CONTAINING FOUL BROOD.

As for foul brood, if I had an apiary affected with it, I would melt up every comb I could find that contained one cell of the disease. I never knew the bees to remove a dead larva from a cell of foul brood. It has been so bad in my apiary, before we had comb foundation, that I could hardly find a cell, in the breeding part of the hive, that did not have a dead larva in it. No, don't waste your time in trying to save combs that contain the spores and germs of foul brood. You will certainly regret it if you do. I doubt if there ever was a comb of foul brood disinfected so that it would be safe to put into a healthy colony. About 38 years ago I had a long siege with foul brood. At that time it was quite prevalent in this part of the state, but have not seen a cell of it in over 30 years. It is as much worse than

black brood as smallpox is worse than measles; and I don't care who says to the contrary.

THE GREAT NEED OF THOROUGHNESS, PERSEVERANCE AND SPECIALTY.

I am sorry that such a large per cent. of the people who keep bees do not realize the necessity of being *thorough* in everything connected with the business. Far too many of them are looking for "some other business to go with it," not knowing that hardly one man in a thousand is smart enough to be cut in two, and two men made of him. I have always known that *I* never was; therefore, I have given bees my whole attention, as a business, for nearly 50 years! The chances to succeed in bee-keeping are, I think, better now than I have ever known them to be before; but, like all other lines of business, you must be *thorough* in all the details. The time is past when the lazy, careless, shiftless man can compete with the man who puts lots of hard work, energy and perseverance into his business.

In conclusion I will say, either attend to your bees as they should be, or else sell them to some one who will, and then turn your attention to something else.

DELANSON, N. Y., Dec. 7., 1903.

[There is one thought, or expression, in the foregoing article worthy of being printed in gold, and that is, "Not one man in a thousand is smart enough to be cut in two, and two men made of him." Don't forget this when tempted to be or do half a dozen things.—ED. REVIEW.]

The Way in which Most of us Have Become Bee-Keepers.

BY IRVING KINYON.

LAST December I asked my readers to tell me of their bee-keeping experiences, how they started in bee-keeping, what had helped them most, etc. Some of these letters were very interesting; for instance, there was such a delightful freshness about the following, such a lack of conventionality, such candor, the beginning of a bee-keeping life told with such graphicness, that I begged the writer to allow my readers to enjoy it with me. Besides all this, it contains hints well-worth heeding. Here is the letter:

Friend Hutchinson:—The December Review is here and I am going to write you that letter you ask for. Your telling about trying to get frames out of hives that were glued in as if to to stay, so you sometimes wished you had a crow-bar or a stump-puller, produced such a feeling of fellowship I was tempted to write you then, but I am a poor hand to write. I see something in the Review, quite often, that I would like to talk with you about and I think this matter of having frames so they may be picked out with no trouble is a *very* important point, as I will try to show farther along. But, as you ask how I came to keep bees, I will go back to the beginning.

The first I ever heard of any one "keeping bees for a living," was in the fall of 1887, when we were told that a "bee man" was going to teach our school. This set us all talking

about bees and honey, and the wise old men told us how "the bees carried honey on their legs." I had always had a notion I should like some bees, but I had been severely stung by hornets when small, and was afraid of anything that would sting. Well, the teacher, who is now Dr. C. L. Parker, of Syracuse, N. Y., wanted me to work for him the next summer. I told him I was afraid of the bees; and, to quiet my fear he said that after I had been stung a few times it wouldn't swell. As it was the hurting part, and not the swelling part, that I was thinking of, I thought he meant it wouldn't *hurt*. The firm was Ross & Parker, and they had 400 colonies in three yards. Mr. Ross didn't work any with the bees; and it was a great mystery to me, and to every one else in that school district, to know what Mr. Parker wanted to *hire* any one for. We supposed there was no *work* with the bees, except to *hive* them. I shall never forget the morning in April, when I went into the bee-house for the first time. My! The smell of the honey and wax was grand.

Mr. Parker set me to nailing up sections, and said that there were 16,000 of them to nail, so I began to see there *was* something to do besides hiving swarms.

That afternoon I looked through the window and saw Mr. Parker wearing a veil with half a dozen holes in it, and shaking robber bees off the combs where colonies had died. I couldn't understand why he didn't *run*, as there were *millions* of them around him; but, as he didn't get hurt, I took courage.

Mr. Parker took the American Bee Journal, and gave me a copy to read. Well, it was all about "Queen-cells," "Drone-traps," and other things of which I had never heard. I tried to study it out but it was pretty dry work. The next week was the same; but, after that I worked out in the yard, and then things became interesting—so interesting that when, in July, I saw an advertisment of the Review, I subscribed for it and have every number that has been issued. In the fall I subscribed for Gleanings, and borrowed several bee books.

I worked two summers for Ross & Parker; and then, thinking I could learn more by seeing how other bee-keepers managed, I worked, for several seasons, for different bee-keepers; always trying to get with the most experienced man possible.

IMPORTANCE OF SPECIALTY AND OF HAVING THINGS HANDY.

I think any man going into the bee business should make it his *only* business, and learn all he possibly can about it. The majority of bee-keepers try farming, or something else, with the result that the bees are neglected. When I worked for P. H. Elwood, he and I, and another man, took care of over 1,050 colonies, run for comb honey, and located in ten different yards.

[Right here, friend Kinyon, let me suggest, there is material for an excellent article. Please tell us exactly how you and Mr. Elwood and the other man, handled 10 apiaries managed for comb honey—it would be interesting and instructive.—EDITOR.]

Right here is a point I wish to bring out: Mr. Elwood's hives, supers, bee-wagons, and everything, were made *handy*, and it took less help to take care of the 1,050 colonies than it did for 400 for another man that I once worked for. What we want is a hive that will allow us to get the bees in the best condition for storing honey, and, at the same time, be easy to handle. You know they say of Vernon Burt, of Mallet Creek, O., "he always has honey," and he has nearly all his bees is two-story, old-fashioned, Root, chaff-hives. That has been my experience from observation, in about 15 yards. The colonies in these hives always get more honey than those in other hives in the same yard. Now, I

don't think *hives* will gather honey, but *conditions* will cause the bees to store surplus honey if it is to be had. But here is the trouble, this Root, chaff-hive is so unhandy to handle that it is out of the question.

I have never had a very good chance to build an up an apiary, as I have had no place to keep them, and was away to work in the summer when they needed most attention. Three years ago I bought a small place three miles from F. A. Salisbury's and one mile from the street-car line. I work for Mr. Salisbury, in the supply business, in Syracuse, N. Y., four days a week, so I am building up from one colony, bought three years ago. I now have 27. I got 750 pounds of comb honey from 16 colonies. I took the queens away to prevent swarming, and I like the plan. I made my increase by building up nuclei. To make a success of this the queen should be taken out of the hive. Some cage the queen and leave her in the super, but the bees will swarm some in that case as soon as they have queen cells sealed. I want to increase the 27 to 45 this summer.

I wish to mention something which I have found handy. If you have an old Bingham knife that you don't use, cut off the handle, and bend a piece of sheet iron, or galvanized iron, around a ⅝ inch rod, and then rivet it on one edge of the knife, and you will have the nicest thing going for scraping hives, supers, bottom-boards or anything else.

I think I have been helped most by reading the bee-papers. Like yourself, I prefer the four-piece sections, and, I glass my honey.

QUERIES REGARDING NORTHERN MICHIGAN.

Your description of Northern Michigan just makes me wish I could go up there to keep bees. Plenty of bee pasturage, and a new country. I would just enjoy being in such a place. Of course, I suppose, it has some disadvantages or it would be all taken up before this. Are the roads very bad up there? Isn't it quite a place for malaria, and fever? I should think a bee-keeper could employ his spare time in the winter trapping, and, if he were like myself, he would enjoy it. I should like to go up there, with a partner, in the fall, fix up a camp, and make a business of trapping. Do you think it would pay? A year ago this summer I went to the Adirondack woods for two weeks, and I think such a trip does one more good than a barrel of medicine. We were in 12 miles from the nearest house. One fellow said it was so still you could hear a fly's wing drop. There were four of us and we had everything we wanted to eat, and it cost us only $9.85 each, including our R. R. fare from Utica.

SOME CRITICISMS ON THE MAGAZINE "SUCCESS."

Now you ask for criticisms, if we have any. Well, I have only one. This may hit in a sore spot, and may be you will not feel the same toward me if I tell you, but you ask for honest opinions so here it comes: It is your indorsement of that paper called "Success." This paper holds up the idea that anybody can be the president of a R. R. or something similar, if he will do as someone else has done. If you will look closely you will see that that those so-called successful men have gone up in proportion as they were willing to push others down. I once had occasion to wait an hour in a business man's office, and he gave me something to read—a copy of Success. He remarked as he handed it to me, "This means get the best of the other fellow." I think he couldn't have expressed it better. No one likes to see people succeed better than I do, but I like to see them succeed by their own labor, and not by crushing others. You have made

a success of the Review, and I hope you and I will enjoy the relation of editor and subscriber another 15 years, or longer.

Camillus, N. Y., Dec. 19, 1903.

[The roads in Northern Michigan are excellent. The soil is a sandy loam, and the country rolling, even hilly in some parts. I have been there in the spring, in the middle of the summer and late in the fall, and the roads were always good. As to malaria, I can't say, except that I never heard of any when there. I presume that trapping would be good in some parts of Northern Michigan, but exactly where, I cannot say. Perhaps some of my subscribers can answer this question, and some of the others, better than I can.

No, I don't feel the same toward Bro. Kinyon since he opposes my opinion of the magazine, "Success"—I think all the *more* of him. If there is one thing more than another that I have tried to do since starting the Review, it is that of encouraging my readers to express themselves freely, regardless of whether or not their views agree with mine. I wish for the utmost freedom of speech, combined with kindness and toleration, even though there may be a difference of views. In regard to "Success" I would say that I have read most of the numbers since it has been published, and I must say that I have never been able to discover any disposition to encourage success by the crushing of others. The world is wide, and the need for men of ability is so great that there is room for all. What many men need is to have their abilities pointed out to them, and to be encouraged to develop them, and it is this "Success" tries to do, as I understand its teachings. The successes that are encouraged by "Success," as it appears to me, are such successes as the one made by the Review. I doubt if any other bee journal has been injured, much less crushed, by the success of the Review. I may go further and say that I fear I have sometimes helped and encouraged some brother in the starting of a bee journal, when it would have been a kindness if I had persuaded him not to have made the venture.—ED. REVIEW.]

Location and Strength of Colonies Versus Overstocking.

BY H. C. MOREHOUSE.

I MUST say a word or two more in regard to overstocking. I believe Mr. Alexander's article on that subject is one of the most valuable you have ever published in the Review. It has caused *me* to think, and it will cause others to think, along *new lines*, and much good, in the aggregate, will result. Such articles (unorthodox) cause a healthy shaking up of the "dry bones," and the very skepticism that they induce will often cause some adventurous spirit to make some new and valuable discovery.

LOCATIONS VARY GREATLY, EVEN WHEN NEAR EACH OTHER.

I note what Mr. Lathrop says in the last Review, yet he does not *prove* that his home-field is overstocked. He quotes no figures showing that his av-

erage yields have been less since more colonies have come into the field. The fact that an out-yard of 35 colonies, having a field all to itself, gave a much larger yield than the home yard, proves *nothing*. There is often times a great difference in the yield of nectar in different localities that are *apparently* equally good. I will give you a few illustrations: Last season the second crop of alfalfa in the vicinity of Boulder bloomed profusely, but yielded no appreciable amount of honey. At Bloomfield, fifteen miles distant, the yield from that source was the main crop. The same conditions were in evidence in other localities of the state.

POPULOUS COLONIES NEARLY ALWAYS GIVE SATISFACTORY RETURNS.

Some of my apiaries have the field wholly to themselves, while others overlap on all sides, and I have only noticed *this*, so far as the comparative yields of honey are concerned: The big, strong colonies (those that attain that condition just prior to the commencement of the flow) in all of my yards *always* give uniformly, satisfactory returns, and the average yield of each apiary, in a general way, is proportionate to the *average strength of the colonies*.

I believe that overstocking is possible—there must somewhere be a limit—but how many bee-keepers in the United States have *really* tested, in a scientific manner, the nectar producing capacity of their fields? I venture to say the number is very few. I will give you a genuine instance of overstocking Some three or four years ago there were kept within a radius of one and one-half miles of Longmont, Colorado, about 1,500 colonies of bees. The yield dwindled to less than half that secured at the yards four or five miles away. More than half of these colonies have been moved to other locations, and the surplus yield in that vicinity now compares very favorably with the general average. But this was an *extreme case*.

BOULDER, Colo., April 20, 1904.

Editorial

W. L. COGSHALL thinks the square, plain joint is better and more durable than the dovetailed or mitered joint.

MRS. W. N. BERTHE, of Winona, Minnesota, has been appointed general superintendent of the apiarian exhibit at the St. Louis World's Fair.

ONTARIO, Canada, according to the government statistics, had, last year, 207,936 colonies of bees; an increase over the previous year of 5,400 oolonies.

STOP FEEDING the fire under the locomotive boiler, and soon the train runs slower and slower—finally it stops. What fire is to the locomotive, advertising is to business.

DATES for holding the National convention at St. Louis have been set at September 27, 28 and 29. It is proposed that the last day be an International conventon.

W. L. COGSHALL owns many apiaries, and with four exceptions, so he writes the American Bee-Keeper, each apiary represents some one who became discouraged with bee-keeping, and Mr. Cogshall bought him out.

THIS ISSUE of the Review goes to hundreds of bee-keepers who are not subscribers. Will such please read pages 174, 175 and 176?

THE STRENGTH of a man is measured by his courage, and the man who knows no fear is the hero that the whole world admires and exalts. Fortune smiles on the courageous man, and it almost seems as though even adversity fears the man who has no fear of her.—*Mrs. Effie Brown in Rural Bee-Keeper.*

HARRY LATHROP, Bridgeport, Wisconsin, offers to send his book of poems "on trial," so to speak. If you wish to see it before buying, write to him, and he will send you a copy. If you decide to keep it you can send him half a dollar—if not, you can return it and he will refund the amount you have to pay as postage.

CUBA has had a light crop of honey this year, yet Harry Howe writes that he has extracted about 35,000 pounds of honey and made 400 pounds of wax, without paying anything for help, from 500 colonies. This would seem pretty good for any or us here in the United States, but we must remember that prices for honey in Cuba are very low.

A TRIP through Wisconsin, visiting supply dealers, is a pleasure recently enjoyed by the editor of the Review. Every dealer reports an unusually heavy trade, which is something of a puzzle, considering the heavy winter losses. Is it possible that the oft repeated admonition, "buy your supplies early," made more forcible by costly experience, is at last being heeded?

A FEW SUBSCRIBERS have stopped their paper this spring, and given as a reason that they have lost so many bees last winter that they must retranch. This is decidedly a short-sighted policy. If a man has met with losses, and the odds are against him, so to speak, then is the time of all others he ought to avail himself of every possible help; and there is certainly no greater help for a bee-keeper than that to be found in the pages of a good bee journal.

FRICTON TOP CANS and pails seem, at present, to be the most promising package for retailing extracted honey. They are cheap and never leak. If you don't know what they are like, step into any grocery store and look at the cans and pails in which syrups are sold. Members of the National Association can get the packages at a discount through their General Manager. If interested, write to N. E. France, Platteville, Wisconsin, for prices.

THE NAMES and addresses of the subscribers are printed this month instead of being written upon the wrappers—an improvement to which I have long looked forward. While great care has been taken to keep out errors, it is possible that a few have crept in, and if any man finds his name or address incorrectly spelled, or the date at which his paper will expire marked with a wrong figure, I will esteem it a favor to receive a postal bearing the proper correction.

THE RURAL BEE KEEPER is the latest candidate for honors in the field of apicultural journalism. It is a 16-page monthly (with a cover) at 50 cents a year, published by W. H. Putnam, at River Falls, Wisconsin. It is to champion the cause of the small, country bee-keeper, showing him how to make money out of his bees. The first issue is excellent for a beginning, and Bro. Putnam is to be congratulated upon having secured a good printer. The day has passed when a slovenly printed magazine can succeed.

PRICES for honey are likely to be be pretty well up this coming season. Cuba has not had much of a crop, the South is not starting out well, California has not had the needed rain, and through the Northern States at least one-third of the bees are dead. Any one having extracted honey on hand can do no better than to hold it, unless offered an unusually good price. I know of some who, with an eye on the future, are now buying extracted honey and storing it.

EXTRACTED HONEY production has one advantage that is quite important, and of which very little has been said, and that is that it may be carried over from one year to another, if a large crop lowers prices, while comb honey must be sold the same year it is produced. Of course, it is possible to keep over comb honey, but the expense of furnishing proper storage and keeping it warm so that it will not candy, greatly lessens the profit. Besides comb honey kept over, even under the most favorable conditions, never has the delicious freshness of new honey.

FACTORIES for making bee hives and other supplies are starting up in several places, and there are still others "in the air." This is one of the results of high prices; and thus do these things reach their level. I would suggest to the brothers who have in contemplation the starting of hive-factories, that present high prices may not be maintained. Instead of choosing and remaining in the business for which Nature and their surroundings have best fitted them, too many are inclined to change about, adopting a business when its products sell at a high price, and dropping it if prices go down; forgetting that competition always lowers prices, and that low prices eventually drive out of the business those least fitted for it, when prices again go up.

BOARDMAN'S HONEY that did not candy *has* candied at last; that is, the sample sent Mr. E. R. Root has candied, but that which Mr. Boardman kept at home has not candied, which is something of a puzzle. Mr. Boardman wonders if Mr. Root has not made a mistake in the sample, or that some one has been meddling, but Mr. Root is positive there has been no mistake.

RENDERING WAX in a small way does not call for any elaborate appliances. Put the old combs into a gunny sack, tie the mouth securely, put the sack into an ordinary wash-boiler, set it on a stove, fill it two-thirds full of water, and then, while it is boiling, take a common garden hoe, and push, and punch and turn the sack of combs about. By throwing a good share of the weight of the body upon the hoe, quite a lot of pressure can be brought to bear while the combs are hot and under water. Finally set off the boiler, and lay some stones or bricks upon the sack to keep it down in the bottom of the boiler. Nearly all of the wax will rise to the top and form in a cake. While this method may not secure quite so much wax as may be obtained with a German wax press, it answers very well for the man who keeps bees in a small way. The boiler can be easily cleaned with gasoline.

IN the early years of the Review I remember how, once upon a time, my compositor and myself marshalled all of the advertising pages of type into a row upon one corner of the "imposing stone," and how we patted each other on the back as we walked around the stone and congratulated ourselves upon the "spread" of advertising that had been secured by the Review. There were *five pages!* Little did I dream at that time that it would ever

be necessary, for months in succession, as it is at present, to add eight extra pages in order to accomodate the advertising. At present the Review contains one and a half times as many pages of *advertising* as went to make up the *whole Review* in those early days. One advertiser using a whole page, or even half a page, was unheard of in those days. One-fourth page was considered an unusual amount of space for one man to use. I think this increase in the amount of advertising is fairly indicative of the growth of the bee business.

THE ROCKY MOUNTAIN Bee Journal has been sold to the owner of the Pacific States Bee Journal, and from the ashes of these two journals, figuratively speaking, is to arise a new journal with a new name. Bro. Morehouse made the best bee journal that has ever been published west of the Mississippi, and it is with genuine regret that I see him lay aside the pen for the honey knife. However, the man who manages 700 colonies of bees has but little time or energy to bestow upon a bee journal, and this last step taken by Bro. Morehouse is only another example of the wisdom for which I have always given him credit. Bro. Adelsbach now has a pretty good foundation to build upon, and if he can keep the new journal up to the standard of the one he has recently purchased, there is a fair chance for success.

GUS. DITTMER'S home is where I have recently had the pleasure of making a visit. He very quickly recovered from the set-back caused by the fire; and I found him and several hands as busy as bees. He has had several machines running for several weeks, and his factory now has a capacity of 1,000 pounds a day. If anybody is hesitating about sending him orders, fearing they can not be filled promptly, there need be no more hesitancy, as he is now ahead of orders.

While the burning of his factory was a great loss to Mr. Dittmer, it showed him his great wealth of friends. From all parts of the country came letters containing not only words of sympathy and encouragement but offers of financial assistance, while his towns-people vied with one another in offering him the use of money if he needed it. Such is the worth of honor and integrity.

THAT QUEENS mate only once before beginning to lay, has been almost universally believed, but, according to reports in Gleanings from Mr. Frank Benton, and from Mr. J. G. Baier, of New Brunswick, N. J., such is not *always* the case. The latter named gentleman saw a queen take *three* flights from an observation hive; each time returning with evidence of having mated, the evidence of each previous mating having been removed in the meantime—twice by himself and once by the bees.

I suppose it is rank heresy, but I am going to ask, isn't it *possible* that *old* queens may *sometimes* mate again? What makes me ask this is that when I have mailed to a customer a queen that I *knew* produced three-banded bees, he has reported later that she produced hybrids. This has happened several times during my experience as a queen breeder. You might say that the man was mistaken about its being the same queen. When it is introduced to a colony of blacks, it is easy to be positive.

INSPECTOR OF APIARIES for Wisconsin, Mr. N. E. France, has begun a new method of meeting and becoming acquainted with the bee-keepers, learning where there is foul brood, advising the owners, etc. First he lays out a route over which he can travel, holding a meeting at a different town each day. Printed postal cards

are then sent out to bee-keepers all along the route, telling when and where the meetings are to be held. Some prominent bee-keeper at each place of meeting is also furnished with the cards to send out. Perhaps I can do no better than to reproduce the card. Here it is:

DO YOU KEEP BEES?

If you have only one or more colonies it will pay you to come to..... on ..... at ..... sharp. The State Inspector of Bees will be at your Post Office to explain to you many things of value in handling bees, buying of supplies cheaper, and selling honey at better prices. If you have any bees not doing well, bring a piece of the brood comb to the meeting. Perhaps I can help you. This convention is FREE, and you can't afford to miss it. Don't forget the date.

N. E. FRANCE,
State Inspector of Bees.

☞Please publish the above in your local paper.

I have been with Mr. France at two of these meetings and I am satisfied that much good will come from these gatherings. He can thus meet and become acquainted with more bee-keepers in one week than by weeks of travel and meeting one man at a time. At some of these gatherings local associations are formed that unite in a body with the National Association.

THE G. B. LEWIS Company, of Watertown, Wisconsin, has added another story to its factory. In order to do this the roof was slowly raised with jack-screws and then side-walls built. The whole job occupied a month's time, but the work of manufacturing goods was not suspended during this time. Another improvement at the factory is the building of a slanting chute, *a la* toboggan slide, from the top story down to a platform built just outside the factory. At the lower story the chute turns upward, and it is lined with metal, the whole length, upon its lower side. Instead of taking goods down on the elevator when ready for shipment, they are shot down the chute, the upward curve at the bottom causing them to slow up so that they simply pop out on the platform, outside, and stop. Some of the boys have even dared to "shoot the chute" sitting on a board. There are openings at each story which allow goods to be placed in the chute.

Notwithstanding the winter losses of bees in some parts of the country, the G. B. Lewis Co. report a larger trade than ever this spring.

PREVENTING STARVED AND CHILLED BROOD WHEN MAKING "SHOOK" SWARMS.

If the bees are shaken or brushed off pretty close when making "shook" swarms, some of the brood is quite likely to perish either from cold or starvation. Last summer, when visiting Mr. E. D. Townsend, of Remus, Michigan, he showed me quite a lot of brood that had died in this manner. He told me that in order to make a sure thing of it, to be certain that there would be no after-swarming, it was necessary to shake the combs pretty clean—that it was better to lose some of the brood than to lose a swarm of bees by leaving too many bees. In this connection I wish to say that Mr. J. C. Wheeler, of South Oak Park, Illinois, has a plan that prevents all loss from chilled or starved brood, yet allows the bees to be brushed off very clean. The new hive, into which the bees are shaken, is set a little to one side of the old stand, and the combs of brood put into a hive and set upon the old stand. The flying bees return to the old stand and care for the brood. At night the hive containing the combs of brood and the flying bees that have entered it, is picked up and carried to a new stand, and the "shook" swarm placed upon the old stand. Of course, the old bees that are carried to the new stand gradually come back to the old stand and join the "shook" swarm,

but it is from one to two days before they all get back, and, in the meantime, bees are hatching out, and, by the time the old bees have all returned, there are sufficient young bees hatched to protect and feed the brood. Thus, one by one, are the obstacles overcome.

WHEN TO SPEND MONEY ON BEES.

The advice is sometimes seen in the bee journals, not to spend any more money on the bees they bring in—that is, after having made a fair start. As a general rule this is good advice. That is, if a man keeps on spending money recklessly, and with poor judgment, he will certainly lose it, but there might be instances when it is advisable to spend or invest more money in bee-keeping than it had brought in. Suppose, for instance, that a man has been gradually building up an apiary. It has cost him quite a little, perhaps more than it has brought in, and then a poor season finds the colonies short of stores in the fall. It would be folly to allow the bees to starve because the buying of sugar would necessitate the "spending of more money than the bees had brought in." If some of the bees could be sold to buy feed for the others, well and good, but suppose they can't?

As I look at it, the profitable spending of money in bee-keeping, or any other business, for that matter, is entirely a matter of good judg ment. The witholding of money "because the bees have not earned it," *may be* an exceedingly foolish move.

I may add this: Before venturing *largely* in any business, a man should have had considerable experience in that business.

STARTING AND PUBLISHING BEE JOURNALS.

On an average, each year witnesses the birth of a new bee journal; and, it might be added, the death of a journal. Of course, all journals can not be equally valuable, but unless a new journal possesses some point of superiority, there is little hope for its success. Bee-keepers are slow in adding to their list a journal no better in *some* respect, than the ones they are already reading. If the main object of starting a bee journal is to put money in the bank, disapointment will come as surely as night follows day. A man may hope to make a living publishing a bee journal, but if he wishes to measure his success in dollars and cents, he may choose from many other fields more fruitful in that direction. The making of money in a legitimate manner is honorable, but an editor, like a teacher, a physician, or a clergyman, must have another and a higher object—that of doing good. I could drop the Review, go to Northern Michigan, start a series of out-apiaries, and make more money than I am now making, but feel that I will accomplish more good by using the Review as an instrument for helping to build up bee-keeping into a safe and profitable business—changing it from the slip-shod hap-hazard, subsidary pursuit that it has been, to the dignity of a profession. I wish to see bee-keepers lay aside other hampering pursuits, seek the best possible locations, adopt methods that will enable them to branch out and keep hundreds of colonies, and thus be able to wear good clothes and hold up their heads with the rest of the world.

KEEPING MORE BEES.

For several years I have been advocating the keeping of more bees. I never expected such advice would meet with opposition, but it has, although upon grounds that to me seem untenable, viz., that the keeping of so many bees will use up so much honey in furnishing food for the bees, as to

greatly lessen the amount of surplus for the bee-keeper; and, on the other hand, if more surplus *is* secured, it will lower the price of honey. It was only a short time ago that I showed the fallacy of the latter argument, but nothing has been said lately regarding the former, that of each colony consuming from 100 to 200 pounds of honey each year, and, as it comes from Bro. G. M. Doolittle, with whom I so seldom have occasion to argue, I must make the most of it.

In brief, it is really a question of overstocking. Of course, it requires honey to rear bees, and, after they are reared they must eat, but, so long as each colony can go out and gather this honey, we don't care a fig whether the amount so used is 100 pounds or 500 pounds. It is quite generally admitted that the number of colonies may be so increased in any locality that the surplus per colony will be diminished, but even this might be done, yet the amount of honey secured in the *aggregate* would be so increased as to make the increase in number of colonies a profitable move. It is not always the greater yield, *per colony*, that proclaims the greatest success. The most successful bee-keeping is that which gets the greatest yield from a given area with the least expenditure of capital and labor. Just how many colonies can be kept at a profit in a given locality, is one of the hardest nuts that bee-keepers are called upon to crack, but when a bee-keeper decides that he has gone beyond that point, it then behooves him to branch out and establish another apiary in an unoccupied field. This is the way in which I advocate the "keeping of more bees."

It is a disputed point whether spreading the brood, or similar "fussing," really puts more bees in the field, but, supposing it does, honey is used to rear and feed these extra bees just the same as though they were secured by putting more colonies in the field. Here is the point: a man has 100 colonies. By "fussing" with them, we will suppose that he increases the crop from 5,000 to 7,000 pounds. My contention is that he might better use this extra time or labor in caring for 200 colonies, using "short-cut" methods, and getting, say 8,000 pounds.

I don t advise any bee-keeper to increase his business in a reckless manner. Let him gradually increase the number of his colonies until he is satisfied that he has as many as can be profitably kept in that yard, then let him start another; and when that becomes overstocked, start another; and so on, thus letting experience and number of colonies keep pace with each other.

I have traveled about considerably, visiting hundreds of bee-keepers in their homes, and one thing that I have noticed is worth *pages* of theory, and it is this: *The most prosperous bee-keepers are those who keep the most bees.*

EXTRACTED DEPARTMENT.

A NEW USE FOR A CARD INDEX.

How it May Be Employed in Keeping Track of Valuable Articles.

I fear there are many bee-keepers who do not obtain the full amount of benefit that they might from their bee-journals, from a lack of some systematic method indexing the valuable articles. To be sure there is an index published at the end of each year, but the seeker for information does not usually know in which year a certain article was published, besides, some

of these indexes are very voluminous—the journals contain so much that this particular man cares so little about. Every man, as he reads the journals, will occasionally come across an article that is especially valuable to him; and, later, when he wishes to refer to it again, he don't find it.

Mr. Charles B. Achard, of Roselle, Illinois, uses the card system, which, by the way, is now applied to so many uses. In an article written for Gleanings he describes his plan as follows:—

I got a plain "Macey" card-index box, also one set of alphabet index-cards, and about a hundred blank cards. Whenever I come across anything in a bee journal that I think I might wish to refer to afterward I mark the article, or part of it, with pencil. About once a month I look the papers over and note the subject, name, page, and volumn of the bee journal on the card, allowing a separate card for each subject. For example:

Wintering, requirements for successful—*Rev.*, 102, 1903.

Wintering, ventilation—*Rev.*, 114, '03.

Queens, introducing—*Gl.*, 376, 545, 1903.

Queens, introducing, shower-bath method—*Gl.*, 185, 1903.

In this way, if I wish to look up any valuable suggestion it takes but a few seconds to find what I want. Perhaps you may think I would soon have hundreds of cards filled; but I find that, during the whole of last year, I used but a few over 100 cards, and they are, most of them, not half full, as I can put ten to twelve items under a given subject on one card. I take four papers—the *American Bee-keeper; American Bee Journal*, *Review*, *and Gleanings*, and I think the average bee-keeper takes no more than that.

SHOOK SWARMING.

Some Ways That are not Profitable and One Way That Always Succeeds.

In the March Review I published an article from Mr. M. A. Gill, of Longmont, Colorado, in which he tells how he often shakes two colonies into one, thereby securing excellent results. Last August, the editor of the Rocky Mountain Bee Journal told, in an editorial, of his failures and successes in practicing shook-swarming, and his biggest success was in this same line of shaking two colonies together. He tells so many other important things about shook-swarming that I think it worth while to copy the entire article, which is as follows:—

During the present season we made an extensive trial of "shook" swarming, and, to a limited extent, dequeening, as a means of controlling swarming in out-apiaries. Altogether about 200 colonies were treated for the swarming fever, with varying results, a recital of which may prove of some value to the readers of the Journal. As all our apiaries are out-apiaries, and returns do not justify the employment of help at each apiary to hive swarms, the problem is, to us, a vital one, and involves, to a large extent, the success or failure of our business, from a financial standpoint. Our efforts were directed solely from a dollars-and-cents basis, not only dollars saved, but more dollars actually earned through a proper direction of the energies of the bees.

To sum up in advance, we achieved both success and failure, learned many things valuable for future guidance, and dispelled some of the illusions that have been commonly accepted as facts.

Our greatest objection to shook swarming is the large amount of hard work that it involves. This was especially true the present season, when colonies went wild with the swarming fever and swarmed, not according to time honored rules, but with a seeming anarchistic desire to turn the apiary into a daily pandemonium. This tendency of many of the colonies to swarm before they were strong in bees vastly augmented the work and seriously impaired the results. A few of the colonies that were shaken at the first indication of swarming (eggs in the cell cups) have not worked in the supers at all. The colonies that were held back

from swarming by cutting out queen cells every six days until they were strong in bees (strong enough to swarm under normal conditions) and then shaken, have done very satisfactory super work, but even these would have given far better results if they had been stronger in bees.

Any method or management of swarming that divides the forces of the bees is inimical to the production of comb honey. In natural swarming, restricted even to prime swarms, the division is carried too far for profitable results. The same is true, in a lesser degree, of shook swarming, at least such is the teaching of this season's experience. Even though nearly all the bees were shaken out and additions were made twice a week by shaking the hatching bees with the main colony, the force was not large enough to begin work in the super until the brood chamber, contracted to six Hoffman frames, had been filled. To get the best results, work should begin in the brood chamber and super simultaneously, and there should be bees enough in the super to do as rapid work as the strength of the flow will allow. To secure these essential conditions, uniformly, either a large force of bees must be reared or the bees of two colonies should be shaken together to form the working colony. Our average queens would, perhaps, fill a half depth super with brood in addition to the regular standard brood chamber. This would give one-third to one-half more bees.

The idea of shaking the forces of two colonies together to secure an enormous army of workers is not original with us. We saw it advocated a year or two ago in the Review, as a means of securing profitable crops in a very poor locality. Recently, it was again called to our attention by our genial bee-keeping neighbor and friend, A. F. Foster, who sees in its practice a possible means of overcoming some of the adverse conditions imposed by natural and artificial swarming. Some of his experience this season points strongly in that direction. So far as we are concerned the idea has found lodgment in friendly soil; we believe in it and expect to test it thoroughly next season.

To handle an apiary on this plan expeditiously, the colonies should be arranged in pairs facing in the same direction. The colonies of each pair should be equalized as nearly as possible about forty-five days before the beginning of the main flow and then worked up to the greatest possible strength in bees and brood. At the proper time the bees of both colonies should be shaken together in a contracted brood chamber on starters with as many supers added as is necessary to accommodate the enormous working force thus created. One of the old hives of each pair together with queen and brood and few remaining bees should be reserved for a colony in order to keep the original number of colonies intact. This would be a good colony in a few days and would easily fill a super of extracting combs before the close of the flow. The other hive of brood should be united with the working colony as fast as it hatches.

In our judgment, such a colony would produce more supers of fancy and No. 1 honey than the same bees would in any other juxtaposition, and this plan would overcome the fatal weakness of both natural and forced swarms. It would not only render swarming while absent from the apiary improbable, but would create ideal conditions for the rapid storing of honey in the supers and giving it that perfect finish that so delights the heart of every apiarist.

In one apiary of Italians the swarming fever was so malignant that both natural and shook swarms swarmed out from one to three times each on successive days before they settled down to contented toil. In all cases these swarms were given a frame of unsealed brood. Finally, the brood was omitted and there were no further attempts at absconding. Clearly, the brood was a detriment, though the reverse is the general rule.

Dequeening was a failure. The bees loafed until the young queens began laying, and at least half of the colonies so treated failed to rear queens at all. Perhaps the result would have been more satisfactory had a ripe cell been given to each at the time of dequeening.

With us shook swarming has come to stay in the yards that are managed for comb honey, but we are now strongly inclined to the opinion that the regulation plan should be modified to secure a larger force of bees in the working colonies. After all, in honey production, it is the aggregate number of bees working as a unit, not individual colonies, that is effective in producing results.

ADVERTISING HONEY.

Couldn't the National Bee-Keepers' Association do Something in this Line?

The Review is going to try and help bee-keepers this year to get better prices for their honey. One way to get better prices is to increase the demand. One way of increasing the demand is by advertising. See how this Karo Corn syrup is being pushed upon the public by persistent advertising.

And, by the way, this advertising is very unfair, and I believe injurious, to the bee-keeping industry. It compares the syrup with honey, extolling it far above that delicious article of food—saying that the bees will leave the nectar in the flowers for this much-lauded syrup. Bee-keepers know better than this. They know that the whole of this advertising, so far as comparisons with honey are concerned, is untrue—out and out lies. I have seriously considered if these people could not be compelled to drop this style of advertising, or be made to pay damages if it is continued. Bee-keepers know that the assertions made are untrue, but the dear public does not. A man or a woman buys a can of this stuff, supposing it more delicious than honey. A trial would lead one to say "Well, if this is more delicious than honey, I want none of the latter."

But the point I started out to make is that if honey were put up in as marketable a form as this sweetened glucose is put up, and advertised as extensively, the demand for honey could be greatly increased. If the National Association would, next fall, publish a list of its members, together with the amounts of honey produced by each member, just as was done last December, and then a lot of judicious advertising done in the magazines, setting forth the healthfulness, deliciousness, and great desirability of honey as a food, and ending by saying that a list of the names and addresses of the members of the National Bee-Keepers' Association would be sent upon application, together with the amounts and kinds of honey that each had for sale, each consumer could then order from the member that was nearest to him. It seems to me that there is no way in which the National could spend a few hundred dollars with more benefit to its members than in doing some advertising in a way that will help its members to sell their honey at good prices. It is practically the same plan as that which is going to be tried this year by the Michigan State Association.

The foregoing was suggested by reading in the American Bee Journal, a verbatim report of the last meeting of the Northwestern Association. Among other things, Mr. C. E. Starkey, of Evanston, Illinois, said:

> I believe we ought to advertise, and the National Association is our only means. The National could spend quite a little money among the newspaper men, even in the Ladies' Home Journal and the Saturday Evening Post. I notice they are advertising a corn syrup. They spent lots of money on that, but no more than the National Bee-Keepers' Association could spend. I called them up by telephone and asked them to send me a sample, and it was clear and nice, and just as sweet and fine, and very much like the syrup produced back in the hills from cane, exactly like it, and it is sweet and has the same flavor. It is 10 cents for a pound and a half package. It will no more take the place of honey than will black molasses. We want to advertise, and we want to appoint some one in charge of that who can successfully advertise honey. Let the people know that honey is a good thing, and they will buy it.

Following Mr. Starkey came a characteristic talk by Mr. Fred W. Muth, of Cincinnati. It was the first time I had seen Mr. Muth, and the way he talked, and the enthusiasm he showed,

did me lots of good. He showed most conclusively that he is a hustler. If there were 30 or 40 more like him in this country, bee-keepers would have to hustle to produce as much honey as these dealers could sell. Here is what Mr. Muth said, and I hope you will enjoy the reading as much as I did the listening to it.

It may be a little off the subject, but to create a demand for honey might be a good point for the National, and I would vote for that. Last summer I conceived an idea of a showcase advertisement in a grocery, like those you see of Malta Vita and other farinaceous goods. I told them I would also put a swarm of bees in there, a one- or three-frame nucleus. To start the goods I would stock the whole showcase with honey. I would get a lady demonstrator in the store, and every lady who comes in and who, you think, would be likely to buy a bottle of honey, you steer her over to the honey stand. I put in $800 worth of honey. I didn't tell the grocer to buy one dollar's worth. I thought it might pay me after it was all over for what we sold in the store. We had the finest show you ever saw. One of my traveling men was 100 miles from Cincinnati, and at the hotel at dinner (he was known at the table by the other travelers); he was asked if he had seen the honey display, and they just thought it was the finest thing on earth, and I could have a million dollars in displays in windows today, but it gets tiresome. In two weeks my young lady had sold over $300 worth of honey in that store.

I went one point further. I sometimes get a notion to travel. I have got to go, you just can't hold me down. I went East where they have a great department store which covers one block, and is seven stories high. I said: "Let me see the manager." When we came up to the seventh floor there was an exhibition of everything that they had for sale. I thought, "Here is an opportunity to sell a barrel of honey; stacks of it." I showed them my bottled honey. If you please, there are other fellows in the East. My honey was the best honey put up in bottles. I am proud to say it. It is the truth. I told the manager that I would like to put up a demonstration for a couple of weeks or months. "I would just like to start you off here. I have the finest thing on earth." I sold him nearly $1,500 worth of bottled honey. Now, the National Bee-Keepers' Association doesn't do a thing like that. If you did this, you wouldn't be selling your comb honey for 10 and 12 cents, and your extracted for 5 cents. The demand would be greater than the product. It would be true; and the National Bee-Beekers' Association membership—you wouldn't have to advertise it in the way you do to get your dollar. They would run for you. That would be the best thing.

Friends, I honestly believe that the National can do its members a lot of good by using some printers' ink in helping them to get good prices for their product. If anybody has any suggestions or criticisms to offer on this subject, send them in, and they will be printed.

BEES and QUEENS

AND

Stanley Incubators

Full Colony, with tested queen, in 10-frame, L. hive, $5.00.

Nucleus, on three L. frames, $2.00. Price of queen to be added.

Queens, warranted, 75 cts. each, or $7.00 a dozen; tested, $1.25 each, or $10.00 a dozen; best breeding queens, $2.00 to $3.00 each

Incubator and Brooder (patented), best on the market for rearing and caring for queens, complete, $5.00.

Queen Cells, 100 mounted, with sample of Cylinder cage, sent postpaid for 75 cts.

ARTHUR STANLEY,

DIXON, ILLINOIS.

Georgia Queens

"The best is none too good."

Standard bred queens from Hall's strain of superior, golden, improved, 5-banded, leather-colored, and Carniolan stock. They are bred for business, as honey gatherers, by the best known methods. See how they please customers: —

KANSAS CITY, MO., Mar. 12, 1904

Mr. T. S. Hall,

Dear Sir—Enclosed please find $1.00 for one of your Italian queens, to be sent sometime in April. The one I got of you last year proved very satisfactory.

Yours truly, Geo. C. Hall.

Untested queens, either strain, before July 1st, $1.00 each; six for $5.00; twelve for $9.00. Tested $1.50; select tested, $3.00; best, $5.00

After July 1, untested, 75 cts.; six for $4.00; twelve for $7.00. Tested, $1.25; select tested, $2.50; best $5.00.

Full colony with tested queen, $6.00. Three-frame nucleus, $2.00; two-frame nucleus, $1.50. No queen at these prices—add price of queen wanted.

Selected, purely mated queens, mated to select drones by our new system of mating, $1.25.

Discounts on all large orders. Send for descriptive circular. *T. S. HALL,*

4-04-1t Jasper, Pickins Co., Ga.

Long Tongues Valuable

South As Well As North.

How Moore's strain of Italians roll in honey down in Texas.

Hutto, Texas, Nov. 19., 1902.

J. P. Moore —Dear Sir:—I wish to write you in regard to queens purchased of you. I could have written sooner, but I wanted to test them thoroughly and see if they had those remarkable qualities of a three-banded Italian bee. I must confess to you I am more surprised every day as I watch them. They simply "roll the honey in." It seems that they get honey where others are idle or trying to rob and for gentleness of handling, I have never seen the like. Friend E. R. Root was right when he said your bees have the longest tongues; for they get honey where others fail. I will express my thanks for such queens. I am more than pleased. I will stock my outapiaries next spring with your queens.

Yours truly,

HENRY SCHMIDT.

The above is pretty strong evidence that red clover is not the only plant which requires long tongued bees to secure the greatest amount of nectar, but there are pages more, fully as strong, in one of the neatest little circulars that ever was sent out by a queen breeder. Send for this circular and read full particulars in regard to how these queens are bred, the prices at which they can be obtained, etc

J. P. MOORE, Morgan, Ky.

Eggs For Hatching.

From 30 varieties of Standard Bred Fowls, my breeding stock scores from 90 to 96 points. Price of eggs, $1.50 per 13; $2.50 per 26; $5.00 per 65. Send for my 13th annual Circular. It is free. Everything as represented, or your money back. S. A. HUMMEL,

5-04-1t Box 60. Freeport, Ill.

Finest Bee Supplies in the world

Sold Everywhere

G. B. LEWIS CO., Watertown, Wis., U. S. A.

"Your Bees won't sting you if you give them Lewis Goods"

Send at Once for Our New 1904 Catalog 68 pages



THE MINNESOTA BEE-KEEPERS' SUPPLY COMPANY.

In the Heart of the Mississippi.

Located on Nicollet Island, which splits in twain the mighty old "Father of Waters," as it rushes through one of the most populous portions of "The Flour City of the West," the building shown in the illustration is an earning-place of no mean importance in the eye of the Minneapolis man, and the editor of the Review discovered, during his recent visit in that city, that her manufacturers know how to prize location, and how to make the most of natural power.

The subject of the illustration is known as the Power House Building, and in it are located quite a number of ambitious manufacturers, chief among these is the **Minnesota Bee-keepers' Supply Co.**, booming under the stimulus of new life and the management of John Doll & Son.

Each 100 feet of this building is divided by a wall of solid stone masonry—one portion might be gutted by fire and the remainder could be preserved intact. The M. B. S. Co occupy three floors of the first division, one floor having been added during the visit of the editor of the Review in Minneapolis.

The Mississippi provides the motive energy direct by means of powerful turbines. It is the cheapest power in the Northwest. This is one of the most powerful of the many arguments advanced by the M. B. S. Co., as to why bee-keepers should give them a trial order. Rent and power combined, cost but a little more than rent alone, ordinarily does.

Complete Change of Policy.

Through unfortunate and uncongenial partnership connections in the past, this firm suffered in some degree from internal frictions and external dissatisfactions; but, a few months ago, many radical changes took place—the greatest of all being the securing the entire ownership, control and management by John Doll & Son. They have introduced a complete change of policy, as well as abundant capital, they are possessed of thorough experience in their work, and, better than all, an untarnished name for square dealing. Instead of discouraging orders for odd sized goods, or out-of-the-ordinary things, they are making a specialty of such matters and guarantee the most accurate and prompt work.

They have recently issued a new catalogue—they frequently issue new price-lists—you'll get one by return mail if you write. Address them

The Minnesota Bee-keepers' Supply Company,

Minneapolis, Minn.

The Southwest Limited

Is the new electric-lighted train Chicago to Kansas City. Its route is via the new short line of the

Chicago, Milwaukee & St. Paul Railway.

By one Missouri editor it has been called "The Sure 'Nuf Hurry-up Train between Chicago and Kansas City." It is electric lighted throughout and carries standard sleepers, dining cars, compartment-observation sleepers, chair cars and coaches. Leaves Chicago 6:00 p. m. Arrives Kansas City 8:40 a. m. Union stations in both cities. Two stations in Kansas City.

ROBERT C. JONES, Michigan Passenger Agent

32 Campus Martius, DETROIT, MICH.

St Paul

Tennessee QUEENS

Daughters of select, imported Italians, select long-tongue (Moore's) and select golden, bred 3¼ miles apart, and mated to select drones. No impure bees within three and only a few within five miles. No disease—31 years of experience. All mismated queens replaced free. Safe arrival guaranteed.

	Prices before July 1			After July 1		
	1	6	12	1	6	12
Untested.....	$ .75	4.00	7.50	$ .60	3.25	6.00
Select.....	1.00	5.00	9 00	.75	4.25	8.00
Tested.....	1.50	8.00	15.00	1.25	6.50	12.50
Select tested..	2 00	10.00	18.00	1.50	8.00	15.00

Untested queens ready April 20th

JOHN M. DAVIS

4-04-3t Spring Hill, Tenn,

THE EARTH 25c

That's the yearly subscription price of the latest and best journal in the interest of farming, fruit-growing and cattle-raising. It will acquaint you with the conditions, climate, life and opportunies of the Great Southwest. Issued monthly; profusely illustrated. Address, for sample copy, **THE EARTH**, 1118 Railway Exchange, Chicago.

BEES FOR SALE—20 colonies, in 8- and 10-frame hives, at $4.00 a colony. For further particulars address L. J. BENJAMIN, Clio, Mich.

Please mention the Review.

Headquarters for Bee Supplies

ROOT'S GOODS AT ROOT'S FACTORY PRICES

Complete stock for 1904 now on hand. Freight - rates from Cincinnati are the lowest. Prompt service is what I practice. Satisfaction guaranteed. Langstroth Portico Hives and Standard Honey-Jars at lowest prices. You will save money buying from me. Catalog mailed free. Send for same. Book orders for Golden Italian, Red Clover and Carniolan Queens; for prices, see my catalog.

C. H. W. WEBER, Cincinnati, O.

Office and salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Avenues.

4-04-3t

NORRIS & ANSPACH Kenton, OHIO.

Manufacturers and dealers in bee-keepers' supplies. Jobbing agents for the G. B. Lewis Co., of Watertown, Wis. We handle a complete line of their goods, at regular, catalog prices. Dovetailed Hives, Triumph Hives, Sections, Smokers, Veils, Honey Cases, in fact, everything for the bee-keeper. Frst-class goods, prompt shipments. Special prices on large quantities.

4 04-3t Please mention the Review.



$10,000 has just completed the above Bee-Keepers' Supply Mfg. Plant, and we can give all bee-keepers a great bargain in new goods at old prices. Send for price list.

MONDENG MF'G CO.

145 Cedar Lake Road, Minneapolis, Minn.

PERFECT GOODS!

LOW PRICES!

A Customer Once, A Customer Always.

We manufacture BEE SUPPLIES of all kinds, (been at it over 20 years). It is always best to buy of the makers. New illustrated catalog free. For nearly 14 years we have published The American Beekeeper, (monthly, 50 cents a year), the best magazine for beginners. Edited by one of the most experienced bee keepers in America. Sample copy free.

The W. T. Falconer Manf'g Co.

JAMESTOWN, NEW YORK

Wm. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save freight.

IT PAYS TO BUY

Standard Bred Queens.

We have them true to name.
Buckey strain 3-banded Italians.
Golden Italians.
Carniolans.

We guarantee safe arrival. Ready to mail April 15th.

PRICES.

	One	Six	Twelve
Untested,.....	$ .75.....	$4.00.....	$7.50
Select.....	1.00.....	5.00.....	9.00
Tested.....	1.50.....	8.00.....	15.00
Select Tested.....	2.00...	10.00.....	18.00

Select Breeders $3.00

The Fred W. Muth Co.,

51 Walnut St., Cincinnati, Ohio. 3-04-8t

The Beekeepers' REVIEW

For 1904

THE Review never had more subscribers, better correspondents, greater mechanical facilities, or a mone experienced editor; in short, it was never more fully equipped, than at present, for helping bee-keepers, It will use all of these advantages the present year in taking up and disussing two of

The Most Important Subjects

connected with bee-keeping, viz., the production of large quantities of honey, cheaply, and the selling of it at a high price. The first few issues of this year, are and will be, especially devoted to the discussion of the first-mentioned topic, then in July or August, marketing will be taken up and continued through the year. I do not mean that other important matters will not be touched upon, but that special attention will be given to these two.

For instance, last year, Mr. F. E. Atwater, of Boise, Idaho, with only one helper,

Managed 11 Yards

scattered from seven to eighteen miles from home, and in the January Review he had a long article describing the hives, implements, and methods, that enabled him to accomplish this feat.

Mr. E. D. Townsend of Remus, Michigan, is

The Most Extensive Apiarist

in this State; managing out-apiaries with the least possible amount of labor, much of it unskilled at that, and making money out of the business, and he is telling the readers of the Review "how he does it." I think I am safe in saying that no more valuable contributions have ever appeared in the Review than those that are being furnished by Mr. Townsend—particularly for the specialist. They contain little that is startling, or revolutionary, their chief value being the short-cuts and systems that enable him to manage many colonies with little labor. The series of articles began in January, and will probably run through the year. They are all practical, like the one in this issue. Later in the season he will write on marketing and wintering.

Mating 300 Queens

by using the bees of only one colony would seem to be an impossibility, yet W. H. Laws, of Beeville, Texas, has been, for the last year, practicing a method that not only enables him to do this, but allows of the introduction of virgin queens that are from five to seven days old, avoids all trouble from fertile workers, prevents loss from absconding, and queens may be mated in a locality free from objectionable drones. This method is illustrated and described in the March issue of the Review.

The beginning and the end of the honey season are

Critical Points.

To induce the bees to promptly take possession of the supers, to wind up the season with nearly all of the sections completed, yet lose none of the honey that the bees can store, are most desirable accomplishments; yet James A. Green, of Grand Junction, Colorado, has an article in the April number telling how all of these things may be managed by what he calls his "Combination System."

Mr. M. A. Gill, of Longmont, Colorado, last year, with the assistance of his wife and one other helper, managed 1,100 colonies, increased them to 1,600, and shipped

Two Carloads of Comb Honey.

Last month the Review published an article from Mr. Gill in which he told exactly how he managed—particularly in regard to the swarming-problem.

Sold 20,000 lbs.

When it comes to the marketing, I have on hand an article by Mr. H. C. Ahlers, of West Bend, Wisconsin, in which he tells in detail how he has built up a trade in selling extracted honey direct to consumers, in which he last year sold 20,000 pounds, and most of it at *12 cents a pound!*

The Home-Market

is something that many of us have neglected as too small to be worth noticing, especially if it is only a small town, but our energetic General Manager of the National Association, Mr. N. E. France of Platteville, Wisconsin, manages to sell about 8,000 pounds a year, if I remember aright, in his little home-city, of only 4,000 inhabitants. He does no peddling, it is all sold at the groceries, butcher shops, and the like, and he so manages as to get eight cents a pound for it. What that management is, how the honey is put up, the package, in fact the whole *modus operandi* will be described by Mr. France in the Review, long ere the time comes to put this year's crop on the market.

A Honey-Route,

in something the same line as a milkman has a route, has been inaugurated and put in practice for several years by Mr. C. F. Smith, of Cheboygan, Michigan. There is no peddling about it. On certain days, except during the busy time of the year with the bees, Mr. Smith goes over a certain route, calling at certain houses and delivering a certain amount of honey. In this way he sells all of his own extracted honey at 13 cents a pound, and then buys and sells thousands of pounds besides. How the honey is put up, how the route was established, how he knows at which houses to call, and how much honey to bring, etc., will be told to the readers of the Review in an article that Mr. Smith is now preparing with much care as to detail and helpfulness.

So much in the way of retailing honey, and we now come to the subject of selling honey direct to retail dealers, instead of sending it to commission merchants who, in turn, sell to the retailers. This is

A Big Field,

and one that has been little worked, but I have found a man who has had a lot of experience in this line, Mr. S. A. Niver, formerly of New York, but now of Chicago. For several years, quite a

number of extensive bee-keepers near Groton, New York, turned their crops of comb honey over to Mr. Niver, who graded and crated it, and then packed a case with samples, and went out as a "drummer," selling direct to the retail trade, going over the same ground more than once, taking orders and collecting for the honey. I have an article from Mr. Niver telling of his success. It is long, readable, full of humor, and of suggestions for some man to go and do likewise. Mr. Niver is now at work preparing an article on retailing honey to city customers.

The foregoing are only a few of the good things that are in store for the readers of the Review—these are given simply as samples. The prospects for

Making Money

in bee-keeping were never brighter for the man who will arouse himself, wake up to the changed conditions of things, and take advantage of the changes. One thing is certain, if you are a bee-keeping specialist, if bee-keeping is your *business*, you can't afford *not* to

Read the Review.

It will lead you, and encourage you, and fill you with ideas, and tell you how to do things—show you how to enlarge your business and *make money*.

Send $1.00 for the Review for 1904, and long ere the year is out you will admit that it was the most profitable investment you ever made.

W. Z. HUTCHINSON

Flint, Michigan

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr.	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

NOT IN THE TRUST.

The oldest bee supply store in the East. Sells best goods at former prices. Send for catalog. Successor to A. J. King.

J. H. M. COOK, New York City

3-04-4t 70 Cortlandt St.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. We have had 21 years of experience in queen rearing, and our queens are all reared by up-to-date methods. Untested, 75 cts. each, or $8.00 a dozen; tested, $1.00, or $10 00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular.

G. RONTZAHN,

4-04-6t Biglerville, Penn.

Choice Queens

For 1904

We are again offering queens of the best stock obtainable. Untested queens, Golden, Leather Colored, or Carniolan, warranted pure, 75 cts each, or $7 50 a doz. Tested, $1.25 each, or $12 per dozen.

Geo. J. Vande Vord

4-04-tf Daytona, Florida.

The Queen Mother

And her quality is what your surplus depends upon. Knowing this, we use extra care in the selection of our breeding stock. Selected queens are given one year's trial in our out-yards, and those only are used for breeding that have shown a marked superiority in the yield of surplus honey.

Tested and untested queens and nuclei are now ready for shipment. Send for 64-page catalog giving prices on bees, queens, hives, and other supplies.

J. M. Jenkins, Wetumpka, Alabama

4-04-3t

I Can Sell Goods Cheaper



Than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small, country town where labor is cheap; I have new, up-to-date, labor-saving machinery run by water-power—the cheapest power in the world. Not only will I sell goods cheaper but ***I Will Pay the Freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering,



W. H. Putnam, River Falls, Wis.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04-tf

J. B. Case, Port Orange, Fla.

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids,
Agents for Michigan

3-04-10t

IT PAYS

to send your orders a distance of 1,000 miles
—FOR—
BEE-SUPPLIES
to *R. H. SCHMIDT CO., Sheboygan, Wis.*

Boston

3-04-3t

Mass., at 182 Friend St., is where F. H. Farmer sells ROOT'S SUPPLIES Send for free catalogue. Telephone

Prothero & Arnold, DuBois

PENNSYLVANIA

Are handling ***Root's Goods*** in car loads, at factory prices—wholesale and retail. The best of shipping facilities.

3-04-4t Please mention the Review.

Bee-Keepers

It is a conceded fact that the bulk of the honey of the future is going to be produced in the irrigated portion of what is known as "Arid America." If you are interested in the progress of apiculture in this vast region, you should subscribe for the

Rocky Mountain Bee Journal,

a twenty-page monthly; price 50 cents per year.

This is now the only bee publication west of the Missouri river. We have several hundred eastern subscribers, and have still room for more. Write for free sample copy. Address

H. G. Morehouse
Boulder, Colo.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

We want to add 1,000 new names to our subscription list right away, and to all who will send us a list of 10 bee-keepers and 25 cents in silver, we will send our Journal for one year. Do not send stamps. The subscription price is $1.00 a year.

This ad will appear but once.

PACIFIC STATES BEE JOURNAL,
P. F. Adelsbach, Editor,
Tulare, Cal.

Queens by Return Mail:

I am in the "Sunny South" and I can fill orders *now*, no matter how large. I can furnish either the three- or the five-banded Italian Queens, untested, at $1.00 each, or six for $5.00. Tested, $1.25 each, or six for $7.00. Breeders, yellow all over, $3.00 each. Sold 1,800 queens last year. Safe arrival guaranteed. 4-04-tf

DANIEL WURTH, Karnes City, Tex.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

SPECIAL

FOR

MARCH AND APRIL

No. 1 Sections, $4.00; No. 2, $3.50, Plain Section 25 cts less. Dovetailed Hives, 8-frame, 1½ Story, in lots of 10, $1.25 each; lots of 20, $1.15 each; lots of 50, $1.10, 10-frame for 15 cts more per hive. The Poor Man's Hive, rabbeted, $1.00. Foundation, Smokers, Frames, etc., in stock. Price list free.

W. D. SOPER,

3-04-tf R. F. D. No. 3, Jackson, Mich

Oldest Supply house in

MISSOURI

Your wants fully supplied with anything needed in the apiary. ***Full stock of Root's Goods.*** Danzenbaker hives, Bees and queens. Let us mai lyou our 40-page catalog—FREE.

4-04-4t JOHN NEBEL & SON, High Hill, Mo.

Page & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

Marshfield

MANUFACTURING CO.

Marshfield, Wisconsin, makes a specialty of **Sections,** and they are the best in the market. Wisconsin basswood is the right kind for them. They also have a full line of **Bee - Supplies.** Write for free, Illustrated Catalog and Price List.

3-04-4t

Hilton.

Geo. E. Hilton, Fremont, Mich., has in storage, awaiting your order, Four Carloads of standard goods, such as Danzenbaker Hives, Root's Dovetailed Hives, Roots Chaff Hives, Hilton Chaff Hives and T-Supers, Cowan Extractors, Corneil smokers, Doolittle Wax Extractors, Weed Foundation, Section Boxes, Etc. 36-page Catalog free.

3-04-3t Please mention the Review.

Beekeepers' Supplies

and Queens for sale by W. B. VAUGHAN
Newburg, N. Y.

3-04-3t 45 Smith, St.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold.
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.



QUIRIN The Queen BREEDER

Has a strain of Italian bees in which prolificness and honey-gathering are developed to a high degree. His location furnishes a continuous honey-flow throughout the season, while the broad, extended prairie surrounding his yard allows of no undesirable drones in bee-trees. He expects to keep on hand from 600 to 1,200 queens, and be able to fill orders by return mail, guaranteeing safe arrival, at the following prices ;—

	Before July			After July 1st		
	One	Six	Twelve	One	Six	Twelve
Select	$1.00	$5.00	$9.00	.75	$4.00	$7.00
Tested	1.50	8.00	1 .00	1.00	5.00	9.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00
Breeders	4.00			3.00	15.00	
Straight five-banded breeders	6.00			5.00		
Two-frame Nucleus, no queen,	2.50	14.00	25.00	2.25	12.00	22.00
Full colony, on eight frames,	6.00	30.00		4.00	22.00	

Send for Circular giving many particulars that lack of space forbids mention here. ***FOLDING CARTONS*** at only $4.00 M, so long as present stock lasts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

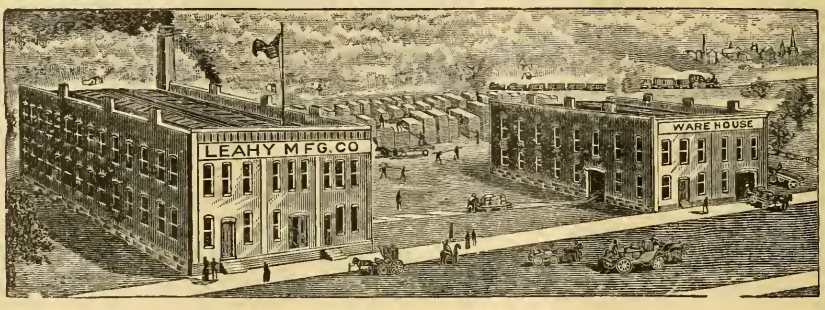
Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them : Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—Honey stock is well cleaned up, and demand good. Beeswax in good demand. We quote as follows:—No.1 white, $2 50 a case; No.1 amber, $2.25 a case; White extracted, 6½c; amber, 6c; beeswax, 30c.

WALKER-BREWSTER GROCER CO.,
May 3 423 Walnut St. Kansas City, Mo

CINCINNATI—The demand for honey is brighter than it has been in the past sixty days. We continue to offer Amber Extracted in barrels at 5½ to 6½ cts, according to quality. White Clover Extracted is a drag on the market at 6½c to 8 c in barrels and cans. Comb honey seems to be reviving at 13½c to 15c for fancy. Beeswax is wanted by us at 30c per lb delivered here.

THE FRED W. MUTH CO.
March 29 Cincinnati, Ohio.

BUFFALO—All grades of honey very dull, and can only be sold by severe cutting of prices. Don't ship here at present, unless willing to accept low prices. We quote as follows:—Fancy white, 12 to 13c; No.1, 10 to 11c; fancy amber, 9 to 10c; No. 1, 8 to 9c; fancy dark, 8 to 9c; No. 1 dark, 7 to 8c; white extracted, 6 to 8c; beeswax, 25 to 32c.

BATTERSON & CO.
May 2 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—The season for selling honey has been prolonged on account of the cold weather, which has certainly been very fortunate for the bee-keeper, as there never was as much honey shipped in so late in the season to be disposed of. It has broken the price quite considerably, but there is still quite a demand, which otherwise would have fallen off. We quote as follows:—Fancy white comb, 13 to 14c; No. 1, 12c; amber and buckwheat, 9 to 10c; Extracted buckwheat, 7 to 8c; amber, 6 to 7c; beeswax 31c and in good demand. We are producers of honey and do not handle on commission.

WM. A. SELSER,
March 30 10 Vine St. Philadelphia, Pa.

CHICAGO—The market is heavily supplied with comb and extracted, neither of which are meeting with any demand; especially is this true of the comb honey. Prices are uncertain, as those having stock are anxious to sell it; therefore, it is difficult to quote prices. The best grades of white comb bring 11 to 12c, anything off, from choice to fancy, is not wanted. Extracted white, according to quality. sells at 6 to 7c; amber, 5 to 6c; beeswax 30 to 32c.

R. A. BURNETT & Co.,
April 7. 199 So. Water St., Chicago, Ills.

NEW YORK—Market quiet, especially on Comb. Fair demand for extracted. Beeswax scarce and wanted. We quote as follows:—Fancy white, 13c; No. 1 fancy amber, 11c; No. 1. 10c; white extracted, 6½c; amber, 5½ to 5¾c; dark, 5c; beeswax, 29 to 30.

HILDRETH & SEGELKEN,
265 & 267 Greenwich St., Cor. Murray St.
May 2. New York.

CINCINNATI, OHIO—The honey market continues to be dull; if anything, the prices on comb are lower; concessions are made on bigger lots. I quote: fancy white comb from 12½ to 14c. Sales on extracted are made at the following prices; Amber, in barrels, 5¾ to 5¾c; in cans, ½c more. Alfalfa, water white, 6 and 6½c; strictly white clover, for extra fancy, 7½ and 8c. Beeswax 30c.

C. H. W. WEBER,
May 2 Cincinnati, Ohio.

CHICAGO—We report a very good trade on Comb and Extracted Honey during the month of April, at which time we greatly reduced our stock. If producers still have any honey unsold, would advise letting it come forward; no doubt we could dispose of it so as to show satisfactory results. We quote as follows: Fancy white, 12 to 13c; No. 1, 11 to 12c; white extracted, 6 to 7c; amber, 5 to 6c; beeswax, 29 to 31c.

S. T. FISH & CO.,
May 3. 189 So. Water St., Chicago, Ills.

KANSAS CITY, MO.—Demand for honey is good; supplies light, and we look for higher prices. We quote as follows: Fancy white, $2.50 per case; No. 1, $2.40; fancy amber, $2.25; white extracted, 6½c; amber, 5½c; beeswax, 30c.

C. C. CLEMONS & CO.
May 2 Kansas City, Mo.

ALBANY, N. Y —The honey market is dull and it looks as if some would have to be carried over the season. A large portion of the stock is candied hard in the comb, from the long, cold winter. We quote as follows: Fancy white, 13 to 14 c; No. 1 white, 12 to 13 c; fancy amber, 11 to 12 c; No. 1 amber, 10 to 11c; fancy dark, 11 to 12c; No. 1 dark, 10 to 11c; white extracted, 6 to 6½c; amber extracted, 5½ to 6c; dark extracted, 5 to 6½c; beeswax, 28 to 30c.

H. N. WRIGHT,
Wholesale Commission,
April 1 , Albany, N. Y.

WINTERING

Is the perplexing problem every beekeeper has to face. It requires much hard work and good facilities to winter in the cellar. Many with but a few colonies do not care to go to the trouble of moving their bees. Successful wintering on summer stands is what all wish. This depends on the hive. The Danzenbaker hive solves the problem. At half the cost of the chaff hive it has all its advantages and many others. As shown by reports of last season, it has no equal. Now is the time to prepare for next season. Avoid last year's failures by ordering the

DANZENBAKER

The following unsolicited letter from Chalon Fowls, the well known beekeeper of Northern Ohio, keeping some 500 colonies, is a good argument for the Danzenbaker hive as regards wintering. "In this vicinity the winter loses will be very heavy; many reporting one-third to one-half dead already. My own loss is heavy, but not as heavy as reported by others. In chaff hives 12 per cent.; in Danzenbaker hives 3 per cent., all on summer stands." Later reports are even more favorable to the Danzenbaker hive.

Mr. S. E. Wiley of Poughkeepsie, N. Y. writes: "The Danzenbaker hive winters finely. just as well as the chaff hive. Your hive is practically a double-walled hive with closed end frames."

Mr W. W. Lathrop, of Conn., says: "I think there is nothing like the Danzenbaker hive for wintering bees outdoors, and for producing fancy comb honey I owe my success to it."

Mr. Vernon Bert, another extensive beekeeper of Ohio tells us that his bees in Danzenbak hive have wintered much better than all others.

The 11th edition of "Facts about Bees" is now ready. It tells all about the Danzenbaker hive and is full of valuable information. We will send it free on request. The Danzenbaker Hive is kept in stock by all our branch houses and principle agencies.

THE A. I. ROOT COMPANY,

Main Office and Works, Medina, Ohio, U. S. A.

BRANCHES

Chicago, Ill., 144 Erie St. | Philadel'a, Pa 10 Vine St. | San Anto'o, Tex. 438 W. Houston
Mechanics Falls, Me. | St Paul, Minn. 1024 Miss. St | Wash., D. C. 1200 Md. Av. S. W.
Syracuse, N. Y. | Havana, Cuba, San Ignacia | New York City, 44 Vasey St.

JUNE, 1904.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 197.

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heed ed. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, June 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1 00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rocky Mountain Bee Journal	(1 00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1 85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee - Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership, $1.00.

Send dues to Treasurer.

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President.

C. P. DADANT, Hamilton, Ill.
Vice President

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Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.	182	N. C.	60
Ark.	82	Kans.	350	New Mex.	56
Ala.	80	La.	38	Oregon.	104
Calif.	378	Mo.	500	Ohio.	1300
Colo.	228	Minn.	334	Penn.	912
Canada	1200	Mich.	1770	R. I.	46
Conn.	162	Mass.	275	S. C.	40
Dak.	25	Md.	94	Tenn.	176
Del.	18	Maine	270	Tex.	270
Fla.	100	Miss.	70	Utah.	68
Ga.	90	N. Y.	1700	Vt.	200
Ind.	744	Neb.	345	Va.	182
Ills.	1375	N. J.	130	W. Va.	172
Iowa.	800	N. H.	158	Wash.	128
				Wis.	625

W. Z. HUTCHINSON, Flint, Mich.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address: 2-0-7t

J. E. Merritt,
Gen'l. Mgr.

Michigan Land Co.,
Manistee, Mich.

If the REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

We are Jobbers of Bee-Keepers' Supplies in

Michigan

Representing the G. B. LEWIS Co., and DADANT and SON. Wholesale and Retail. Several Carloads constantly on hand. Send for 40-page illustrated catalog.

Lewis C. & A. G. Woodman,

Grand Rapids, Michigan.

3-04-4t

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

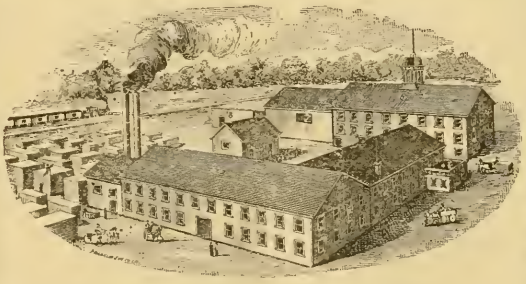
W. Z. HUTCHINSON, Flint, Mich.

OLD COMBS

wanted in exchange for Dovetailed Beehives and other supplies. Our goods are all of the best and latest make.

Wood-Brush Bee-Hive & Box Co.

12-03-tf LANSING, MICH.



Kretchmer Mfg. Company

RED OAK, IOWA

3-04-4t

Bee - Supplies

We carry a large stock and great variety of everything needed in the apiary. Best Goods. Lowest Prices. Prompt Shipments. Send for catalog and read description of Alternating Hives and Ferguson Supers.

Agencies

Kretchmer Mfg. Co., Chariton, Iowa
Trester Supply Company, Lincoln, Nebraska
Sugart & Ouren, Council Bluffs, Iowa
Falton & Ford, Garden City, Kans.

The Danz Hive

The Comb-Honey Hive

Points of Excellence

Quality—You can produce better-looking honey.
Quantity—You can produce more of it.
Price—You can get more per pound for it.

Root's Goods Sold in Michigan by M. H. HUNT & SON, Send For Catalog

The Danz Book of "FACTS ABOUT BEES" tells all about it, and what successful bee-keepers say in favor of it. We want to send it to you,

3-04-4t

Please send to my address "Facts About Bees"

Name.....

Address.....

Danz Hive Sold in Mich. by

M. H. Hunt & Son

BELL BRANCH, MICH.

Make Your Own Hives.

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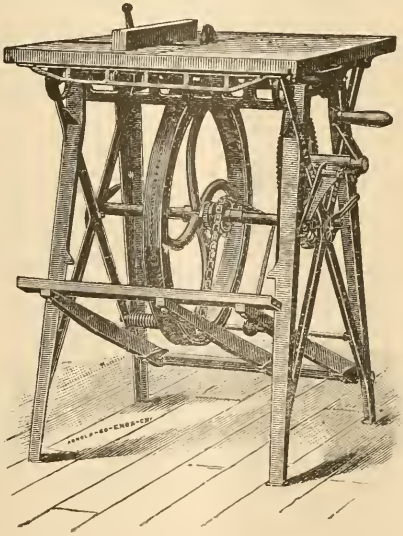
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ORANGE BLOSSOMS.

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W. Z. HUTCHINSON, Editor and Proprietor.

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Orange-Bloom Yields, Sparingly, a Most Delicious Honey.

BY W. S. HART.

MY cheeks have occasionally tingled because of the praise bestowed upon some of my photographic efforts, but there is another amateur in our ranks to whom I most cheerfully doff my hat—Mr. Harry E. Hill, editor of the American Bee-Keeper. Many times I have sent him some of my pictures, but he always "goes me one better." A short time ago he sent me such an exquisite thing, a spray of orange-bloom, that I begged of him to allow me to use it as a frontispiece in the Review. He replied that he already had a cut made, and intended to use it in his July issue, accompanied by an article from Mr. W. S. Hart—and now comes the wonderful part—instead of saying, as any other editor would have said, "I shall be pleased to lend it after the July Bee-Keeper is out," what does Bro. Hill do, but bundle up the cut and the article, and send them along, saying: "Go ahead and use them in the June Review; explain that they are to appear in the July Bee-Keeper, but that you were permitted to use them *first*—fix it up any way you choose." What editor, having a beautiful picture and an interesting article, would thus turn them over to one who might be termed a rival, and allow him to use them *first?* Only a man with a broad and generous mind, free from the petty jealousies of common mortals. Once more Bro. Hill has out-done me, and destroyed my last hope of ever "getting even with him."

All of my life I have felt that honey from orange bloom, of all honeys, ought to equal that far-famed nectar that was "fit for the gods;" the very name "orange-bloom," brings to the mind exquisite imaginings of flavor, aroma and perfume, and I am pleased to learn, from reading Mr. Hart's article, that in thus allowing my imagination to run riot, no imperfect pictures were formed; but, like Bro. Hill, he, too, destroys a hope, that anticipation will ever be realized—that I may some day taste honey from the beautiful blossoms of the orange tree.

Here is what Mr. Hart says—Ed. Review.

Editor of The American Bee-Keeper,

My Dear Sir:—The photograph of a spray of orange blossoms, received from you by the last mail, is the finest that I have yet seen. I think it should go into the American Bee-Keeper, and thus give many, who know not even the form thereof, an opportunity to see what a really beautiful flower it is.

It is a matter of regret that photographic art cannot also catch the delicious perfume, and fix it in the picture for the delight of those who live too far away from the orange growing States to allow of their enjoying, to the full measure, this most charming product of the Sunny South.

ORANGE BLOOM FURNISHES POLLEN BUT NOT MUCH HONEY.

This picture will be of special interest to bee-keepers, for, as a prolific pollen, and less prolific honey, producer, the orange blossom is a very important factor in building up our colonies in late February, March and early in April (the period of bloom varying somewhat in different years) and starting them into the season with an abundance of young bees.

HOW ALL THE SENSES MAY BE REGALED IN AN ORANGE GROVE.

To him who is both a bee-keeper and an orange grower, there are few, if any, more pleasant experiences than that of standing in the midst of the glossy green, rich gold, and silvery white, of his fruit and flower laden trees, in early March, the air redolent with the delicious perfume of the blossoms, and full of music from the busy hum of his bees. Then is the time to pluck and eat of "The Fruit of the Gods," while at its very best, and thus arrive at the ideal condition of man when every one of the five senses are rationally gratified to an extent seldom reached even in life's happiest experiences.

WHAT ORANGE HONEY LACKS IN QUANTITY IS MADE UP IN QUALITY.

As a honey producer, the orange blossom is often over-estimated as to quantity, but never as to quality. Of the latter too much can hardly be said; for I am sure that pure orange blossom honey has no superior in any one of the three qualities, color, body or flavor; the essentials that go to the making of a perfect product. It is, in fact, one of Nature's most nearly perfect productions; and, like most such, quite limited in quantity. While working among the orange trees the bees seem brisk and happy, and return to their hives well-laden with pollen pellets, but their honey sacs, though invariably containing some nectar, are never filled to repletion as when gathering from the saw-palmetto or mangrove bloom.

PURE, UNMIXED, ORANGE HONEY SELDOM SECURED.

Owing to many tons of honey being shipped from this State each year under the mark of "Orange Blossom Honey," an erroneous impression has gone forth as to the quantity produced, and its true characteristics. As this honey all comes from locations to the north, and outside of the orange growing districts of the State, it is not possible that it could have come from the orange blossom. The explanation offered for the use of the name is that it "is used as a private brand," and not intended to designate the source from which the nectar was gathered. In evidence that it is misleading, I will state that I have repeatedly repeatedly received orders for "honey from the orange blossom" with the statement that the sender had used one or more barrels of that kind and liked it. I think I am safe in the assertion that a barrel of *pure* orange blossom

honey was never shipped from this State. It is only in very few locations, where there are large orange groves in full bearing, in the pine woods, as at DeLand or Lake Helen, that *pure* orange honey is ever secured; and even there in only limited quantities. I would think it quite possible that, at Riverside, California, it might be gathered in an unmixed condition, and appreciable quantity, and, possibly at other points in that great State.

ORANGE HONEY IS WHITE, HAS A GOOD BODY AND DELICIOUS FLAVOR.

When pure, its color is as white as the whitest of clover honey; its body even heavier, and its flavor superior, to any other I have ever tasted. In my own section of the "Orange Belt" of Florida, it is invariably mixed with dark honey from other flowers blooming at the same time, and its fine, distinctive qualities are thereby hidden, to a greater or less extent.

HAWKS PARK, Fla., May 1, 1904.

Shook-Swarming and how it Should be Managed.

BY C. A. OLMSTEAD.

THOSE who have not tried shook-swarming do not realize what they are losing, not only in satisfaction and convenience, but dollars and cents, If a man wishes to run out-apiaries for comb honey, he might as well do without a good smoker as to not practice shook-swarming. It enables a bee-keeper to double and treble his number of colonies, and increase his income in proportion.

FAILURE IS IN THE MAN INSTEAD OF THE PLAN.

Of course, some men have failed with the plan, and probably some always will fail, but the trouble is in the man, and not the plan. I know from reading the experiences of others that they do not do it at the right *time*, and in the right *way*. And there is but little wonder at it; for the attempt made by some to work it off under some old name—some name that has been used for years to designate some particular or definite operation about the hive—has led many to think it could be done at *any time*, or whenever most convenient to the operator. This is a mistake; for there is but *one* time when we can make what *I* call a real "shook-swarm." That time is when we find the bees preparing to swarm naturally; and by "preparing to swarm," I do not mean simply "hanging out" or anything of that order. They must be feeding a royal larva, or, as we usually call it, building queen cells, at a time when we usually expect our bees to swarm; and the *nearer ready to swarm* they are, the better; as they are in all respects in better condition to start operations in a new home. The nearer ready to swarm they are when we shake them out, the nearer the natural order of things has been followed, or complied with, and the bees are left in practically a normal condition. Another effect of waiting until they are preparing to swarm, is that we have to deal only with those that would swarm, leaving the others alone except to keep them well supplied with boxes. With me the non-swarmers

represent from fifty to seventy-five per cent. of my colonies.

ADVANTAGES OF PLACING WEAK COLONIES IN A SEPARATE LOCATION.

If you have out-apiaries, and intend to practice shook-swarming, it is best to begin preparations when ready to move the bees from home. First, sort out all those that are weak, or not likely to store any surplus, and take them two or three miles away from the locality where you expect to secure your surplus, and leave them wherever you can secure the right to leave them, furnishing them with full sets of combs, and they will do the rest. If you have time it may pay to visit them at the beginning of the honey-flow, as some colonies will surprise you by the amount of bees and stores they have. Putting the weak colonies by themselves, away from competition, is better and far easier than all the nursing and fussing you can do. It not only gives the weak ones a good chance, but it leaves the whole field to the bees from which you expect a surplus.

Another thing you might do, if you can spare the time from the main apiaries, is to go, just after the swarming-season, and kill all the queens. A few colonies may fail to secure a laying queen afterwards, but don't worry any over that, as those that have good queens will be enough better to make up for the loss of several queenless ones.

When you can have your choice in location, it is best to select a place where the hives will be in the shade, at least afternoons; and then put the hives in rows, and number each hive. Leave four or five feet between the hives if possible.

HOW TO MAKE A "SHOOK-SWARM."

We will now suppose that you have them in rows running north and south, with the numbers beginning at the south end—1, 2, 3, etc., toward the north. Now let us suppose that you visit this apiary on June 15, and, after rousing up the whole colony in No. 1 by the use of smoke, lifting off heavy supers, and tearing the brood-nest all to pieces, you learn that the bees have queen cells that will be sealed in about four days (with the new plan mentioned in the February Review the same information can be secured in one minute, or less, and the bees not know that anything has happened); the colony could well be left until two days later, but, as you have them all roused up, and filled with honey, *a very essential thing*, it is better to shake them.

Take a full-sized brood-chamber, having one empty comb, the rest of the frames being supplied with inch starters—this is supposing you want no increase; if you want increase use full sheets of foundation, but, in no case, use more than one *drawn comb*, a full one is better, as its only use is to catch the first pollen. Shook-swarms bring in some pollen, even while you are at work with the colony, while a natural swarm gathers almost none for a day or two. These hives should be kept on the ground in the shade if possible. Put both hands under the back end of the hive from which the bees are to be shaken (No 1), raise it a little and carry it around to the right until it is nearly in line with the row of hives. Now take the front end and carry it around to the right one-fourth of a circle, after which, with a little changing, it will be one width of the hive further south than it was originally, with the entrance to the west instead of east, as before. Set the empty hive on the old stand, remove the supers from this No. 1 to the new hive, and then shake all the bees off the combs and hive, in front of the empty hive, giving them a good sprinkling with water while they are on the ground or going in. It has a wonderful effect on them, and should be used

on all kinds of swarms. If you find them on a tree, give them a sprinkling with water the first thing—you can hold them in this way as long as you wish; and when shook from the limb in front of a hive, if you sprinkle them instantly they will not fly up as they otherwise often do. Put all the combs and brood back into the old hive (No. 1), partly close the entrance, leaving the north half open (next to the hive containing the shook-swarm.) About a week later change ends with hive No. 1, and raise back end of the hive containing shook-swarm ¼ or ⅜ of an inch from the bottom board, resting it on two little blocks. This makes an entrance into which the bees that leave the old hive (No. 1) will go and thus reinforce the colony from which you expect a surplus, and nearly always stops after-swarming.

No. 1 will need no further care; and, mark my word for it, will be in booming shape for the next season unless it should fail to secure a fertile queen.

HOW TO MANAGE IF NO INCREASE IS DESIRED.

If you have not wanted increase, and have hived on starters, go, after the honey flow, and put a queen-excluder over hive No. 1, set the new hive over it, cut out all the nice, white honey to sell for chunk honey, and drive the few bees down with the others or let them go at will, and carry down all the broken or dark honey. Extract from the one old comb, or keep it for feeding.

If supers with plenty of partly filled boxes and boxes with foundation are given to a shook-swarm the bees are so interested in filling them that they often only partly fill the brood-nest with comb.

I have followed this plan for twelve years, and I don't think I have ever had a colony abscond. Shook-swarming has enabled me to keep bees in three Counties at once, with the loss of only a few swarms. One apiary in Livingston County, sixteen miles southwest, another in Yates County, twenty-three miles southeast, and my home apiary; but it was too much for one man to do as I had to do most of the driving in the night. I have slept in my buggy for hundreds of miles, so faithful and trusty is my "bee pony" as I call her. I now keep only about 175 colonies, but I feel just like *shouting* "keep more bees" and run out-apiaries on the shook-swarm plan.

EAST BLOOMFIELD, N. Y., May 6, '04.

Securing Large Yields of Extracted Honey, Profitably.

BY E. W. ALEXANDER.

FIRST of all, look well to the quality of your honey, for upon this one point, more, perhaps, than upon any other, depends your success. And right here let me thank all the editors of our bee journals for the advice they have always given, to put only well-ripened honey on the market. If you barrel up a lot of thin, unripe honey, you do yourself much harm, as no one will knowingly buy your honey the second time; and what is still worse, you injure the sale of extracted to those that have seen your miserable stuff. This is something I have been very careful about. During my experience in producing extracted honey, I have never put into a barrel

any honey weighing less than 12 pounds to the gallon, neither have I ever had a pound of sour honey to fuss with. Let your aim be to produce a good article, free from all impurities; put your name and address on every package, and you will have no trouble to sell it at a good price.

Another very important thing is to so manage your bees so as to get a large yield from them; for when you realize that you are likely to receive only from five to seven cents per pound, you will see it takes a large quantity to bring a fair income.

Still another thing to look after, is to be sure you have enough honey left in the hives at all times to carry the bees safely through a honey dearth in summer, or through a long, cold winter. This is very necessary in this locality as the mercury frequently drops thirty, and sometimes forty, degrees in twenty-four hours, in either winter or summer. About thirty years ago, when I commenced to run my bees for extracted honey, I found it so easy to get their honey that I extracted too often, and when one of those sudden changes came I would have a large number of colonies on the verge of starving.

HOW TO SECURE LARGE YIELDS.

And now I will tell you in as few words as I can, how, with the help of one of my sons, we produce extracted honey. We get all of our colonies strong in bees, and their hives full of brood and capped honey, about two weeks before we expect a harvest that will give us some surplus. Then we put a hive of empty combs on top of each colony. This gives the queen lots of room to lay, as she now has full swing in eighteen combs. It also checks the desire to swarm. We leave them in this way until the harvest is about to begin, when we put a wood-zinc-queen-excluding honey-board between the upper and lower stories, being careful to have the queen in the under hive.

In about ten days we commence to extract, always being careful not to extract combs containing much brood. This management gives us a strong colony until the harvest is over, which, with us, is about September 1st, when we are done extracting, and put away the extra combs after the bees have them all cleaned up.

I think I hear someone say: "What! let the bees loose on the combs wet from the extractor?" Yes, we frequently set out three or four hundred hives of wet combs on a bright, warm afternoon, when the sun is about two hours high. The bees will clean them up in about an hour, and I have never had a case of robbing, or any harm, come from so doing, although I have done it hundreds of times.

Something like thirty years ago, Prof. Cook (I think it was) said that it was not necessary for bees to cap their honey in the combs before extracting, if we would ripen it sufficiently ourselves before putting it into barrels. This I tested thoroughly and found the Professor was right. I then had five tanks made, and lined with tin, each one having a capacity of over 4,000 pounds, which we used as follows: Our apiary is on ground sloping to the southeast. Our extracting building is in the center of the yard, while the storage tanks are in another building enough below the extracting house so that the honey will run from the extractor through a pipe into the top of either tank. These tanks are covered with thin sheeting so that the moisture can easily escape from the honey; and, at the same time, not allow an ant or a particle of dirt to enter the tank. The honey goes through a wire cloth strainer before it enters the tank. These storage buildings are only about six and one-half feet high, with a flat, tin roof painted dark to draw the heat. In this way

the honey keeps about as warm in the tanks as it did in the hives before extracting; and I think it *ripens faster*. We have large faucets at the bottom of the tanks to draw off the honey as fast as it thickens; but it sometimes gets ahead of us and we have a tank of solid candied honey to dig out with shovels, so, after a long experience in producing and selling hundreds of tons of extracted honey, I am sure it makes no difference whatever in the quality of the honey whether it is left in the hive until the bees have it all capped over nicely before extracting, or whether it is extracted every five or six days, *provided* it is ripened in tanks, so it will weigh 12 to 13 pounds to the gallon, before it is put into barrels. With our tanks and surplus combs we can easily store 50,000 pounds of honey at one time, so we don't have to put any into barrels until it is well cured. This gives us a chance to get a much larger yield from our bees, and also with much less work than we possibly could if we allowed the honey to remain in the hives until it was all capped over. But, unless you have the proper facilities for ripening it, *don't extract a pound* until it is well ripened by the bees. If you do, you will surely regret it. Almost any man can produce comb honey that will sell quite readily, but it requires experience and skill to produce extracted honey so it will always bring the highest market price, and sell to the same parties year after year, and, at the same time, keep all colonies, at all times, well supplied with capped honey to winter on. I have known some men to extract as often as they could get four or five pounds from a colony. This is all wrong. Others go to the other extreme, and tier up their colonies until they are six or seven hives high, and then what a time they have to uncap so much cold honey, and that at the end of the season, when we can hardly open a hive without having a swarm of robber bees around. This, too, is all wrong. One extreme is as bad as the other.

We never extract any from the lower hive, and seldom go over the yard, to extract, more than six times during the summer. We never think of extracting until the upper hive is full. This upper story holds about forty pounds, and if the harvest is such that the bees have it filled in five or six days, as they usually do, we extract again. We always try to catch it if we can just before the bees commence to cap it over; in this way we save the bees and ourselves a great deal of hard, and unnecessary work, and we get nearly *twice* the amount of honey. Myself and two sons have extracted from 270 hives in nine hours, or at the rate of one hive of nine combs every two minutes, returning the combs to the bees, and closing up the hives in good shape. This never could have been done by three men if they had to uncap every comb. As to the quality of the honey, it would be so thick after it had been in the tanks a short time that it would hardly run through a large molasses faucet; and as soon as the weather commences to get cold it candies up solid.

No, it is not necessary to let the bees ripen your extracted honey if you will run it from the extractor into a large tank in a dry, well-ventilated room, where the mercury remains above 100 degrees night and day. You will soon have it so thick you will have to use a shovel to handle it with.

And now, before I close this article, let me again caution you to be very, very careful not to put any thin, unripe honey on the market. If you cannot ripen it yourself, as I have described, you better leave it with the bees a whole year, rather than spoil a market that so many of us have worked so long and so hard to build up.

DELANSON, N. Y., Jan. 4., 1904.

Shook-Swarming and Comb Honey Production.

BY E. D. TOWNSEND.

MANY bee-keepers, having a large and successful experience with natural swarming, getting good, paying crops of comb honey, seem to make a failure of the brushed or shook-swarm system; as we practice both natural and shook-swarming, and can see no difference in results, we probably can do no better, under the circomstances, than to describe our method; and what is said will apply to both natural and brushed swarms.

IMPORTANT PRINCIPLES IN COMB HONEY PRODUCTION.

The first principle in the production of comb honey is to so arrange the super that it will be *more attractive* to the bees than the hive proper. To illustrate what is meant we will arrange a hive in the most likely way *not* to get a crop of comb honey, and then gradually change it around to the most *desirable* condition.

The first condition would be a 10-frame Langstroth hive *full of combs*, furnished with a super having only half inch starters of foundation in the sections. Results: Hive nearly full of honey, and a little brood, foundation partly gnawed out of the sections, then, swarming.

The next failure-plan would be to substitute foundation for the combs. Results, the same. Third, starters of foundation in both brood-nest and sections. Results: About 25 per cent. of the swarms *might* make a super of comb honey, each.

The next progressive step would be to use full sheets of foundation in the sections, with starters only in brood-frames; then, if the super could have a section of drawn comb in each *corner*, and, in four days, if all of the combs in the brood-nest, except five of the most advanced ones, were removed, and division boards or "dummies" put in to shut off this unused space, the principle would be the same as I shall hereafter describe; only I shall use the sectional hive to accomplish this result.

The reader will please bear in mind that swarms hived in the full 10-frame hives, like the first four mentioned, have all the room they need *without* going into the *sections*, that bees prefer to work in the brood-frames, rather than in the sections, that the first three were arranged in the very best possible condition to get all the work done in the *brood-frames*, that in the fourth the attractions of the brood-nest and super were about equal, and, with fair management, a fair crop of surplus honey ought to be secured, that in the fifth a *new condition* is brought forth, viz, contraction of the brood-nest, thus *forcing* the bees into the supers. With this *new condition* our preference would be to have things exactly opposite to the first three; that is, we would place worker-combs first, foundation second, and starters last.

The last named system is the one we have adopted, only we think we can get better results with the sectional brood-nest, and, at the same time, do the work very much better, and more cheaply.

At our first visit we put supers of sections on all swarms that we think will need more room during the next week; as this visit is usually two or three days before the season is supposed to open. If we have everything

ready, as we should, this will be all there is to do this trip.

PUT "BAIT SECTIONS" IN THE CORNERS OF THE SUPERS.

The first supers we select for these old colonies are arranged with one section of drawn comb in each corner, the rest of the sections being filled with full sheets of foundation. These combs at the corners start the bees to work the corners *first* and that means that they will work the sections altogether, thus causing all the sections to be sealed at nearly the same time. The usual way of putting one bait-comb in the center, causes this part of the super to be finished, sealed, and, perhaps, travel-stained, before the outside sections are sealed, and ready to come off. With our super arranged with drawn combs in the *corners*, and full sheets of foundation in the balance of the sections, and with the blanket of bees we get with these two fence separators between the super and outside row of sections, (Pettit idea) we have practically put our outside rows in the center, as they are all finished *at the same time*, before there is a particle of travel-stain, thus doing away with the only objection there is to leaving the super on until all the sections are finished.

At our second weekly visit there will not be very much to do. The season has been open only three or four days, and it is likely that the honey-flow has been slow thus far. A few more colonies are strong enough to need a super; then there are always a few colonies that think the first thing to do, as soon as the honey season opens, is to swarm; so we will look through the strong colonies for any indications of swarming. We can tell, by the entrance indications, *nearly* all that are making preparations to swarm. There will be a few we will be undecided about, and we will look into perhaps, from one-fourth to one-third of the colonies.

EXTERNAL INDICATIONS OF CELL BUILDING.

How entrance indications enable us to select those that are making preparations to swarm is a little difficult to explain. In the first place, we use large entrances during the honey-flow, about $\frac{3}{4}$ x $14\frac{1}{4}$ inches, and with the amount of super-room given, there is hardly ever any hanging out. The heat of the day is the best time of the day to read these indications. We will go down through this south row, and watch the entrances a moment. These first three, here on this row, are working with a vim that shows very clearly that there is nothing on their minds except the storing of all the honey they can. Notice them closely. There are no robbers to bother them now, so there are no guards on duty, and it seems as though every bee was trying to see how quickly it could run in after alighting. And when they come out, it is the same "hurrah boys." They hardly stop running out before they take wing, and are off. Does anyone think they will swarm during the next six days? I guess not. So, all we do is to see to the super-room, and pass on to the next. At the fourth one, things appear different. We don't find quite the energy that the others had. The bees do more standing around at the entrance; then there are a dozen or two fanning, showing that the swarming-fever is keeping a good many workers at home. These, with the amount of young bees that are hatching at this season, make them feel crowded and warm. We think they are making preparations to swarm. We raise the cover. What do we find? Just what we expected. Every bee-space and empty section is full of clustering bees; that swarming-fever clustering we all know so well—

the last doubt is gone. We know there is cell building going on. Let us see. We will remove the super, then pry the two sections of the hive apart, using only enough smoke to keep the bees quiet, draw the upper section of the hive toward us, say, 10 inches, now lift the back end up until the section stands on end, resting on the lower section. Now we will gently puff in a little smoke along the bottom-bars, just enough to keep the bees out of the way, while we look for cells. We look carefully along each space. If they have cells nearly completed we will see them at a glance; but, as we want to brush every swarm that has eggs in queen cells, and these little cell-cups are hard to find, sometimes, when we see a suspicious looking cell, where we cannot see in it otherwise, we use a knife to cut it out so we can examine it. We will suppose we find cell-building going on. The two sections of the brood-nest are set to one side (we stand them on end), then one of these shallow (empty) bodies is placed on the bottom-board, then a body or section filled with drawn combs, or full sheets of foundation, is placed on top of the empty body, then, on top of this, the super that we had previously removed from this same colony. Next, we set one section of the brood-nest on top of all, and, with smoke in good trim, gently commence smoking the bees down into the new hive. When the bees are out of this section, it is removed, and the other half is treated the same.

MANAGEMENT THAT DEPENDS UPON WHETHER INCREASE IS DESIRED.

We will suppose we do not want increase, then these beeless sections are to be placed on weak colonies for the brood to hatch out, and the combs to be filled with early honey for winter use. In this case we want to leave all the workers at the old stand, so, when we have them nearly all smoked out, with only a few left along the bottom-bars, the section is stood on end near the entrance, and, with a Cogshall brush, and a little more smoke, we finish cleaning it of bees.

In this case we always get the queen with the bees, but we will suppose we are going to save this brood and build it up into a swarm; we then must leave enough bees to take care of the brood. We proceed just the same except that we stop smoking when we get out the desired number of bees.

In about one out of ten colonies treated in this manner, we fail to get the queen. For this reason we number the brood-nests and the new swarms with corresponding numbers, and any new swarm in which we fail to get a queen, will show signs of queenlessness in less than an hour. We then look for the corresponding number, and go and find the queen. Many find the queen in this way by the use of a queen excluder placed between the brood and the new hive below, she being unable to get through, is left on top of the excluder. Any increase that is made with this brood should be supplied with a laying queen.

The worst drawback of this "once a week" visit system, is the swarming out a day or two after the brushing. There probably is no larger per cent. than with natural swarming, but with the natural swarming system there is some one present to take care of them, while with this system there is not. Perhaps an entrance-guard of perforated zinc, during the first week would help matters

This empty body that is placed under the new swarm is removed a week later, at our next visit. Some fill this lower body with brood-frames, prepared the same as those the swarm is to occupy, but there are two reasons why the empty body is the better: The first and probably the greatest reason is, that with combs, or foundation, in it, the bees neglect the sections, and work here instead; but with this body

empty there is a greater attraction in the sections, as the sections have at least full sheets of foundation. The other reason is that it is so much less work to get the bees out of our empty body than one filled with frames. Then, this unbroken space that the frameless body furnishes, makes a fine place for the swarm to cluster while they are getting settled down to work, and we think the bees will stay better when hived with this lower body empty. It would be preferable to remove this lower body about the fourth day after hiving, but, working on the weekly visit plan, we have to leave them under during this time. My! how the bees do rush into the sections when this body is removed, thus forcing them above. As they have a brood-nest capacity of only five Langstroth frames, they will need plenty of super-room, especially if it is early in the honey-flow.

SECURING BEES AND STORES FOR WINTER.

We will suppose the season is drawing to a close. Our new swarm that we have been talking about, has only one-half the brood-nest it will need to breed up for winter, and to hold the necessary winter stores, so, instead of giving a super of sections, we will give back the other section of the brood-nest. If it contains full sheets of foundation, place it on top of the other section of brood; if drawn comb, place it underneath. If we have managed right, and made a good guess on the duration of the flow, we should have not many unfinished sections with this management.

REMUS, Mich., April 11, 1904.

Hoffman Frames and Some of Their Disadvantages.

BY JAS. A. GREEN.

I have read with a great deal of interest what has been said at various times in regard to self-spacing frames, which generally has reference to the Hoffman frame in the Dovetailed hive; since that is the frame and hive that has been sold of late years in far greater numbers than any other.

GETTING OUT THE FIRST FRAME DIFFICULT AND EXASPERATING.

This hive and frame are in almost universal use here, and, as bee Inspector, I have handled several thousand of them during the past season; and I want to say that I heartily endorse every word that has been said against them. I wish that I had language at my command to express my detestation of them as commonly found. Whatever may be the good points of the Hoffman frame under proper handling, they almost utterly disappear under the management of the average bee-keeper. To get out the first frame is a task that is almost always difficult—often exasperatingly so. Nine times out of ten, or more, the only way is to cut loose the brace combs along the most likely looking frame,

and pry it *straight up*, a procedure that is not good for the frame, the bees, or the temper of the operator. What a relief it is to come across an apiary owned by a bee-keeper of the old school, with its plain hanging frames that have always been kept properly spaced!

HOFFMAN FRAME CAME INTO USE BECAUSE IT WAS PUSHED.

Since these frames are in such general use, it is a serious question, and it behooves the bee-keepers of this land to see if some improvement cannot be made. I agree with you that this frame came into such extended use because it has been pushed by the A. I. Root Co. It has been ordered largely because it has been sold largely. The average bee-keeper does not know what he wants and takes what is recommended to him. If the manufacturers could be persuaded to have another revelation, or if they would make some improvement that would do away with its most objectionable features, it would be a blessing to the bee-keeping public. Its faults are not inherent or unavoidable. I am not like some that have condemned the hive. I use self-spacing frames and like them. If I were to start over again, I would not use anything else, but my frames are almost as easily handled as the loose hanging frame, and far easier than the Hoffman.

The Hoffman frames have one thing in their favor. They are generally in not much, if any, worse condition in the apiary of the man who hives a swarm in the back corner of the orchard, and does not go near it more than two or three times a year, than in the apiary that numbers its hundreds of colonies. The loose-frame hive in which a swarm hived by the man who drops the hive and runs a foot race as soon as the bees are shaken down, not to look into the hive again for weeks or months, is sometimes not exactly an easy thing to manipulate.

THE "FOLLOWER" SENT OUT WITH HOFFMAN FRAMES IS TOO FLIMSY.

The principle of the Hoffman frame requires that the frames should be crowded close together at the close of each manipulation, and that space should be available to pry the frames apart to get out the first one easily. An attempt is made to provide for this by a follower-board at the side of the hive, but the space between the follower and the side of the hive is not sufficient, so that it is almost invariably stuck fast, while it is made in such a flimsy way that it will come to pieces before it can be removed. If this follower were made more substantially, and a little more space allowed back of it, a careful operator could get along with it very well. But, since experience has shown that very few people will take sufficient pains with such a frame, something that is nearer "fool proof" is needed. Perhaps for the great majority of bee-keepers, a plain, simple, hanging frame, with some plain, cheap spacing device that would hold the proper number of frames the proper distance apart until the combs were built, and then could be *thrown away*, would be the best thing.

GRAND JUNC., Colo., Nov. 14, 1903.

[Last fall, after publishing an article setting forth my troubles as Inspector when I had Hoffman frames to handle, I received a perfect deluge of letters and articles somewhat similar to the above. I did not publish them, as I felt that, perhaps, enough had been said on the subject at that time. As one of the manufacturers, Mr. Root, has just published an article in which the Hoffman frames are more severely condemned than I have condemned them, I feel that no exceptions can be taken if I publish one of the

most reasonable articles that I received last fall. I honestly believe that the introduction of the Hoffman frame has been a step backwards, but I also wish to do justice to their manufacturers, so I copy a few paragraphs from the reply made by the editor of Gleanings to his correspondent.

The Hoffman frame, like every other good thing, is not perfect. Supply-dealers have learned that bee-keepers are a peculiar lot. What one uses and praises, another will condemn; and the strange part of it is, the "condemner" does not see how the "praiser" can possibly use such a useless device. We find examples of it in the preferences for kinds and styles of sections; styles of separators; kinds of smokers; etc.

The reader will pardon what may seem to be something like a trade talk; but there are hundreds of people who wise to know the truth on both sides, and we have given both sides of the question. Let me emphasize more strongly than I have done already the fact that a device that is regarded as simply perfect by one bee-keeper may be condemned to the extent of absolute abhorrence by another one. Supply-manufacturers have been compelled to meet the need of various preferences by furnishing several different kinds and styles of frames—frames shallow, frames Langstroth depth, frames Quinby depth, frames unspaced, part closed-end frame, and closed end throughout, etc. The same variation exists in the hives and in the supers.

I think it is true that a great many people buy articles because they are recommended by the manufacturers. For this reason they ought to be very careful what they recommend; but manufacturers have preferences just the same as other folks have them, and have a right to express them, and they make no claim to infallibility. They are also very anxious to know what will please their customers, and to furnish what is wanted, and I presume nothing would please manufacturers better than to have all customers suited with one style of frame and hive. As it is, they must furnish several styles, and, so long as customers have a choice, there is not so very much ground for complaint.

There is one more point, however, that I would like to mention, and that is, if customers would be out-spoken in regard to their preferences, especially when manufacturers are trying to introduce something new, things would sometimes go differently. So many people have not the courage of their convictions. If they don't like a thing that some leader is pushing, they have not the courage to come out and oppose it. To illustrate: One man wrote me last fall, something as follows: "When the Hoffman frames first were advertised and praised I bought enough for 100 hives, and when I came to use them, I was never so disappointed in my life. I don't see how anybody could have praised them as they were praised—certainly not if he had used them. I had combs in them, and it was a serious matter. Finally, I took my knife and whittled off the V-edge from every frame. It was a big job, but there was no other way. I have never said anything about this, as Ernest Root is a pretty good fellow, and I didn't *want to hurt his feelings.*" I expect there are a whole lot of users of Hoffman frames that are in exactly the same boat as this friend, and I wish to say to them, that I think I know Ernest Root well enough to be able to say that you will not hurt his feelings in the least if you will write to him fairly and kindly and tell him of any point, about any of their goods, that you don't like.

I have no doubt that there are men who prefer the Hoffman frame, but I do doubt if there is a man in this country, who, if filling the office of Inspector of apiaries, would not soon begin to recognize that great wave of thankfulness that sweeps over the heart when a hive-cover is raised and the plain, straight, old-fashioned, so-called, all-wood frames greet the eye. —Ed. Review.]

Editorial

ECONOMY does not always mean the saving of money—sometimes it's the spending of money.

WEDDING BELLS have recently chimed for two of the veterans in our ranks —Mr. F. Danzenbaker, and Mr. Henry Alley. Hearts never grow old; and the Review wishes abundant happiness to these.

THIS ISSSUE of the Review goes to a large number of bee-keepers who are not subscribers. Such readers will find something of special interest on pages 218, 219, and 220.

FOR FOUR MONTHS now, in succession, has it been necessary to add eight extra pages to the Review, on account of the amount of advertising that has been offered.

If you have an enemy, some one with whom you would like to "get even," let me tell you how to do it. Do your work, your common, everyday-work, so well that even your enemy must look on with admiration.

WHITE CLOVER is unusually abundant here this year, as is usually the case after a hard winter. The man who has wintered his bees will get a good crop and a good price for it. This lesson should sink deep into the hearts of bee-keepers. Always prepare the bees for just such a winter, and winter them in such a way that they will come through. Here in the North it means abundance of good stores and excellent cellar-protection.

THE TEXAS BEE-KEEPERS' Association will hold its convention July 5th to 8th, inclusive, at College Station, during the time of the Farmers' Congress. They have a long and varied program that would do credit to that of a National Convention.

GENERAL MANAGER FRANCE, at the St. Louis convention, will have a large map of the United States and Europe, with shelves arranged on each State, and on each shelf pound-bottles containing samples of the honeys produced in said State.

QUEENS mating more than once is a subject that is now being touched upon in the bee journals. In the last issue of the Review I asked if it were not possible that old queens sometimes mated again, and gave as proof of such mating that tested queens which I had sold had afterwards been reported as producing hybrids. Mr. F. N. Somerford suggests that such results might have come from the queen having been superseded, and explains how it might have come about without the knowledge of the bee-keeper. Not if the queens were clipped, as was the case in some of these instances.

BRITISH BEE-KEEPERS have good reason for being justly proud of the man who edits their one bee journal—Mr. Thomas W. Cowan. I was reminded of this by the receipt of the most beautiful bee book that it has yet been my good fortune to see—"The Honey-Bee; Its Natural History, Anatomy and Physiology," by Mr. Cowan. It is profusely illustrated, beau-

tifully printed on enameled paper, and bound in red leather with gold letters and design. Typographically, it is a gem; and I only wish I possessed the knowledge that would enable me to intelligently review its contents, but nearly all of my experience has been along commercial, instead of scientific, lines. All honor to the scientist who thus lays the foundation for commercial success.

EVEN-FINISHING of all of the sections throughout the case is very important. The reason is that when all of the sections are finished at once, the whole case may be taken off at the same time. There is no waiting, until the central sections are travel-stained, for the corner sections to be finished. Mr. Pettit, of Canada, has for years urged the desirability of using a perforated separator on the outside of the outside row of sections, thus securing a "blanket" of bees, as Mr. Townsend puts it, all around the sections. Mr. Townsend also encourages the even finishing of the sections by putting the "bait-sections" in the corners instead of in the center, as many used to place them. I see, by reading the journals, that there is quite a general tendency to use separators outside the outside rows of sections, and I think it is decidedly a move in the right direction.

THE LADIES' HOME JOURNAL, a well-known magazine of enormous circulation, is guilty of publishing that old newspaper canard about artificial comb honey. It appears in an article written by a Dr. Emma E. Walker, and published in the June issue, on page 36—third paragraph of second column. I have written the editor a long letter, giving the origin and effect of this story, and urgently asking him to make the proper correction. I also called his attention to the fact that, if Dr. Walker can produce a pound of artificial comb honey, she can thus prove the truth of her assertions and, at the same time, secure one thousand dollars offered by the A.I. Root Co. I have also written to the other editors and asked them to write, and I most earnestly urge every reader of the Review to write to the editor of the Ladies' Home Journal and ask him to make the proper correction. Let us deluge him with protests, and compel a correction. We can't allow such an assertion to stand uncorrected in such a periodical as the Ladies' Home Journal.

HATCHING eggs over a hive of bees has been reported occasionally, but there always seems to be some sort of vaguery about the reports. They have not come direct, but have always been in the nature of a *report* that some one had *heard* of some one who *had* succeeded. It is doubtful if any eggs were ever hatched in this manner. The normal temperature of a colony of bees never goes above 100 degrees, while the temperature of a fowl is 105 degrees. The temperature of a colony of bees is not high enough to hatch the eggs of a fowl. Incubators for hatching eggs are kept at a temperature above 100 degrees, while the brood of bees will not endure such a temperature, as I learned to my sorrow when using a lamp nursery in hatching out queens. I several times tried to hatch hens' eggs in the lamp nursery, which was kept at a temperature of about 97 degrees, but never succeeded. The germ would seem to begin to grow and red veins would branch out from it, and then development would cease and remain the same, even though the egg remained in the lamp nursery for several weeks.

UNCAPPING HONEY—HOW TO TREAT THE HONEY KNIFE.

A large share of the work of producing extracted honey is that of uncap-

ping the combs. Some day we may have an uncapping machine, but, at present, we must depend upon the knife. The Bingham is really the only uncapping knife worth considering. First, it must be kept sharp. Next, it must be kept free from honey and wax. This can be accomplished by having two or three knives, standing them in water when not in use. As soon as a knife becomes daubed up and sticky with honey and wax, drop it into a dish of water and pick up a clean knife. The water soon dissolves off the honey leaving the knife clean and ready for business. Whether the knife shall be kept in hot water, or whether the water shall be cold, depends upon circumstances. If the extracting is done in hot weather, and the combs uncapped as soon as taken from the hives, while the honey is warm, fresh and comparatively thin, a cold knife is preferable; but if the extracting is not done until the season is over, when the honey and combs are stiffer from ripeness and lower temperature, then the hot knife is more desirable.

SUCCESS DEPENDENT UPON MANY THINGS.

Successful men are often asked why they have succeeded—to give the secret of their success. It can't be given in a few words; in short, there is no "secret of success;" it is the result of many things. I was in a dentist's chair the other day when a farmer came in to talk with the dentist about furnishing him with butter. The dentist fell to talking with the farmer, trying to find out why his butter was superior: Was it because of what he fed the cows, was it because he didn't keep the cream until it was too old, or was it because he churned it at a certain temperature, or was it this or was it that? The farmer replied that butter might be poor because some of the points mentioned were neglected, and it might be one, or more, of a great many other things. The dentist replied, "I see; it is something like this: If a filling drops out of a tooth before the patient gets down stairs, there is always a reason for it, but it may be one of a thousand things."

Then, as is often the case, I fell to moralizing, or philosophying. Success does not come from a single idea, but from careful attention to many things. The secret of a bee-keeper's success is not in location alone, nor in the kind of stock that he has, nor of the methods of manipulation. It comes from the proper combination of many things; and the neglect of one factor may destroy the effectiveness of others most excellent in themselves.

OVERSTOCKING.

Mr. F. N. Somerford, in writing from Cuba has the following to say on the subject of over-stocking.

"Mr. H. C. Morehouse, in his article in the May Review, over looks, or ignores, a very important point, viz., that overstocking renders it impossible to have a large per cent. of strong colonies. A location not overstocked, means a larger per cent. of strong colonies and big yields. Overstocking means more work to keep the colonies up to a given number, and greater winter-losses.

I have an apiary now located between two others, and it has given me only three barrels of extracted, and one crate of comb, honey; and I feel certain that had there been no other bees in the vicinity, I would have secured a medium yield, as was the case at other ranches having an open territory, or cut off upon only one side.

I have another apiary where, three years ago, 40 colonies did splendidly through the spring, and were built up to 200 colonies by swarming, divisions, and bringing in bees from other yards, and now they nearly starve in spring,

while other yards with not so many bees easily hold their own.

Native apiaries, when they increase up to several hundreds of colonies, soon drop back, losing from 50 to 80 per cent. from starvation—not during the honey-flow, of course, but afterwards, from lack of stores."

SPECIALIST AND AMATEUR.

I have always believed in, and plead for speciality. I think a man makes the greatest success by following one line of business. I do not mean by this that he shall never turn his hand to anything else. A man can confine himself so closely to one thing as to become narrow-minded. He should know *something* of many things. As a rule it is also well if a man has some kind of recreation—something that he does simply from the love of it, the same as a child plays, and not simply for the money he may make. There is certainly room for amateur bee-keepers.

Right here let me say a word or two about the meaning of the word "amateur." Too many use it it in the same sense that they use "novice," or "beginner." So many bee-keepers in writing me, or when talking with me, will say that they have only commenced to keep bees, that they have only a few colonies, etc., and then they end by saying "I am only an amateur." The man who uses this expression on such occasions usually means that he is only a "novice." The dictionary says that an amateur is "one who cultivates any study or art, from taste or attachment, without pursuing it professionally." Now, an amateur *may* also be a novice and a bungler, or he may be as skillful, yes, more skillful, than a professional. As I have already said, we need the amateur. As a rule, he is more given to thought and experiment than is the case with his professional brother. If I mistake not, some of the best inventions have come from amateurs. I recently had the pleasure of making the acquaintance of Mr. David Cook, one of the Professors in the Illinois college of photography, and he told me that there is a *class* of amateur photographers who are decidedly the leaders, as compared with the great mass of professionals. They are the ones who try the new plates, and new papers, and new processes. The professionals are too busy to bother with these things; besides, many of them are quite inclined to get into ruts. The amateurs take up new things, and demonstrate their superiority until the professionals are compelled to adopt them.

HOW SHALL OFFICERS FOR THE NATIONAL ASSOCIATION BE NOMINATED?

The National Bee-Keepers' Association has been prospering of late in a way that it has never prospered before. It is rapidly increasing in numbers and in wealth. It is to be hoped that the end is not yet; that it will go on and on, and not only increase in numbers and wealth, but do more and more good for bee-keepers. The success of an organization is largely dependent upon the men who manage its affairs, and the rules and regulations for their election should be such that the officers are really and truly the free and unhampered choice of the members. Since the organization of this Association, I believe every officer elected by a vote of the members, at the annual election held in December, has succeeded himself. So far as I know, no harm has resulted from this practice, but there is no knowing how soon we might wish to elect a successor to some one of the officers. Because we have never seen the necessity for electing a successor to a Director, or a General Manager, is no sign that we never will. It may become apparent, sometime, that a man is not fit for the

position he occupies, or circumstances may exhibit some other man's qualities in such a light as to show, decidedly, that *he* is the best possible man for a Director or a General Manager. The constitution is now changed so that the President, Secretary and Vice President are to be elected by a vote of the members at the annual election, the same as we have been electing the Directors and the General Manager. I approve of the change, but this same objection comes up; we will probably keep right on electing the same men right over year after year. With our present method it would be simply impossible to vote an undesirable man out of office, and vote in the better man. We can not come publicly and say that Mr. Blank is behind the times, or too slow, or lacking in business methods, or neglects his business, or has this or that fault. It would be too cruel, and could not be thought of for an instant; but, if we were in the habit, each year, of nominating, say, two candidates for each officer that is to be elected, there would then be an opportunity for voting this man out of office, and electing his successor. When two men are nominated for the same office, it is not considered a reflection upon the one not elected, as it is simply impossible to elect *both*.

The weak point, or, at least one of the weak points, in the management of the National Association, is that no nominations are made in advance of election. I believe that the ballot, the actual power of electing officers, should remain right where it is—in the hands of the members—but so long as no one knows how, or for whom, his neighbor will vote, each officer will simply succeed himself.

One of the recent amendments to the constitution allows the Directors to prescribe rules and regulations in regard to nominations, and I believe some action ought to be taken along this line before it comes time for the annual election next November. When this question was up for discussion two years ago, Mr. W. F. Marks proposed that the Secretary, General Manager, or President, send out notices, in August, to the bee journals, requesting each member of the Association to send, on a postal, his preference for each officer that is to be elected. On the first of October such votes are to be counted, and the two men receiving the greatest number of votes for a certain office are to be the nominees for that office. Such nominations are to be published in the October journals, thus allowing a month for canvassing before the election in November.

This would give all, who wished to do so, a chance to take part in the nomination of candidates, without prejudice, and at the election following they would again have a choice of two candidates, for each office. It is quite likely it would often happen that the man in office would be one of the nominees, but there would also be another candidate, and if any voter did not think the old officer was a suitable man for the position, he would know for whom some other man would vote if he held similar views. If the officer were re-elected, it would show that the members still preferred his services, but there would be an immense satisfaction all around if it were known that the members *could* have elected some other man if they had preferred him.

I have in mind the making of a motion for the adoption of this plan, but, before doing so, I would like to have the benefit of any criticisms or suggestions that any one can make.

BEE-KEEPING AS A BUSINESS.

In reply to the query, "What will best mix with bee-keeping?" I have always replied: "Some more bees." When the conditions are favorable, I am decidedly in favor of bee-keeping

as a specialty—of dropping all hampering pursuits, and turning the whole capital, time and energies into bee-keeping. If bee-keeping can not be made profitable as a specialty, then it is unprofitable as a subsidiary pursuit. If bee-keeping must be propped up with some other pursuit, then we better throw away bee-keeping, and *keep the prop.* General farming is very poorly adapted for combining with bee-keeping, yet the attempt is probably made oftener than with any other pursuit. There are critical times in bee-keeping that will brook no delay, when three or four days' or a week's neglect may mean the loss of a crop, and these times come right in the height of the season, when the farmer is the busiest. Leaving the team and reaper idle in the back field while the farmer goes to the house to hive bees is neither pleasant nor profitable. Drawing in a field of hay, while the bees lie idle because the honey has not been extracted to give them storage-room is another illustration of the conditions with which the farmer-bee-keeper has to contend. The serious part of it is that the honey thus lost may be worth nearly or quite as much as the hay that is saved. Some special lines of rural pursuits, like winter-dairying or the raising of grapes, or winter-apples, unite with bee-keeping to much better advantage than general farming; but when bee-keeping is capable of absorbing all of the capital, time and energy that a man can put into it, why divide these resources with some other pursuit? It has been said that bee-keeping is a precarious pursuit, that it can not be depended upon, alone, to furnish a livelihood, and, for this reason, it should be joined with some business of a more stable character. It is true that there are many localities where there is often a season in which little or no honey is secured, and, in the Northern States, winter-losses are sometimes very heavy, hence it would be risky to depend entirely for a living upon keeping bees, in a *limited* way, in such localities; but, if the average profit from bee-keeping, one year with another, is not the equal of other rural pursuits, why keep bees? The truth of the matter is that it is *more* profitable; and if bee-keepers would only drop everything else, and adopt methods that would enable them to branch out and keep hundreds of colonies where they now have dozens, they would secure enough honey in the good years to more than carry them over the poor years, and thus not only make a living, but lay up money.

When a man decides to cut loose from everything else and go into bee-keeping extensively, making it his only and his life-business, the question of all questions is that of locality. There are few localities in which a small apiary might not yield some surplus, but when a man is to make of bee-keeping his sole business, the securing of the best possible location is time and money well spent. What a good, solid foundation is to a "sky scraper," a good location is to the building up of a successful, extensive bee business. Having settled in a locality, the bee-keeper can not study it too thoroughly. Especially must he understand its honey resources; the time when each flow begins, its probable duration, its quantity and character. He must know whether to expect a spring-flow, like that from dandelion, hard maple, or fruit-bloom, that will build up the colonies for the main harvest that is to come later. If there is likely to be a season of scarcity between the early flow and the main harvest, it must be known and preparations made to keep up brood rearing by means of feeding or the uncapping of honey. The management will depend largely upon the source of the main honey-flow, whether it be raspberry, clover, basswood, buckwheat, alfalfa, sage or fall flow-

ers. Whatever the source, the bee-keeper must know when to expect it, and plan to have his colonies in exactly the right condition to gather it when it comes. This is one of the fundamental principles of successful bee-keeping.

Having secured the most desirable location, the next step is to procure the best kind of bees that can be obtained. There are several different varieties of bees, each with its peculiarities, but, aside from this, every bee-keeper who has had experience with several strains of the same variety, knows that some strains are far superior to others—that there is scrub-stock among bees, just as there are scrub-horses, cattle, sheep and poultry. With scrub-stock, the cost of hives, combs and other appliances remain the same; it is no less work to care for such stock; and it requires the same amount of honey to raise and feed it as it does the best stock in the world. In proportion to its cost, no investment brings the bee-keeper greater profit than the securing of superior stock.

Having secured a good location, and good stock, the bee-keeper should adopt such hives, implements and methods as will enable him to branch out, establish out-apiaries, and keep a large number of colonies. At the present time the great failing of professional bee-keepers is the keeping of too few bees—of clinging to some other hampering pursuit. Many keep enough bees to furnish them a fair living in a good season, but when winter-losses, and poor honey seasons follow one another in quick succession, there is suffering, or, at least, great inconvenience. If a man is going to follow bee-keeping as a profession, his only hope of success is in a good location, good stock, and the keeping of bees in such numbers that when a good year comes he can pile up the honey ton upon ton—enough to keep him several years. The larger a business the more cheaply can it be conducted in proportion to the results; not only this, but the very fact that bees are scattered about in out-apiaries, several miles apart, adds to the certainty of the crop; as one locality often yields a fair crop while another only a few miles away yields nothing.

It has been urged against bee-keeping as a sole pursuit that, while it keeps a man very busy during the summer it leaves him idle in the winter. Bee-keeping, rightly managed, will keep a man busy every day in the year. Too many bee-keepers fail to realize that the selling of a crop is fully as important as its production. The business part of bee-keeping has been sadly neglected. No set rule can be given as to how a man shall dispose of his crop, but it does seem like very poor business management to send away a crop of honey to some commission merchant, and then sit around all winter when good wages might be made selling honey direct to consumers, or to retail dealers. The selling of the crop, and the preparations for the coming season, may well occupy a man during the winter.

It should be understood, however, that bee-keeping is not an occupation in which one can easily become *wealthy*. In this respect, it is much like other rural pursuits. Rightly managed, in a locality adapted to the business, it can be depended upon to furnish a comfortable living, and perhaps enable a man to lay up a few thousands of dollars, but such fortunes as are sometimes amassed in merchandising or manufacturing can never be hoped for by the bee-keeper. Fortunately, however, the perfection of a man's happiness bears but little relation to the size of his fortune; and many a man with the hum of the bees over his head, finds happiness deeper and sweeter than ever comes to the merchant prince with his cares and his thousands.

SHOOK-SWARMING.

Avoiding Some of its Annoyances and Preventing Increase.

The changing conditions of apiculture, the rapid advance of specialization, the "keeping of more bees," the establishing of out-apiaries, all tend to the practicing of shook-swarming. When some radically new system like this is adopted, numerous details need to be changed or improved. For instance, in shaking or brushing, many of the bees scatter to other nearby colonies; and the editor of the Rocky Mountain Bee Journal, in an editorial, last September, told how to avoid this trouble, and, at the same time gradually turn the hatching bees into the swarm, thus strengthening the swarm, and, at the same time, avoiding increase. Here is what he says:—

One great drawback to the ordinary method of brushing and shaking swarms is that large numbers of the bees, instead of entering the new hive on the home-stand, will take wing and join themselves to other colonies in the yard. This not only seriously depletes the force of the shaken swarms but helps to induce swarming in the other hives, whose numbers are thus suddenly augmented, and with bees that have already contracted that fever of unrest which culminates in swarming. As a result the whole apiary is innoculated with a desire to swarm, and, for the time being, the evil is intensified rather than repressed.

A plan which obviates all this trouble has been practiced for a number of years by Herman Rauchfuss, of Denver, Colorado. That the plan is a success may be inferred from the fact that a whole apiary once treated in this manner by Mr. Rauchfuss, gave the phenomenal average of 175 pounds of comb honey per colony. The usual plan of preparation is followed up to the point of shaking, when, instead of dumping the bees in a pile in front of the new hive, a single frame of brood containing the queen and adhering bees is placed therein, the super adjusted, and the hive containing the remaining bees and brood is set on top. The entrance to the old hive should face the rear, and should be closed so that not a bee can get out. Bore a one-half or a three-quarter inch hole in the rear of this hive, affix to it a chute, made by nailing together four pieces of lath, which should terminate about an inch above the alighting board of the new hive. The bees will readily pass out through this chute, but when they return laden from the fields they will enter the new hive. In a day or two all the flying bees will have joined the new hive, and in twenty-one days practically all of the young bees will have come out and entered the new hive. By this plan the transfer is affected without any excitement, the probability of absconding is eliminated, and there is no loss of unsealed brood. The evil features of shaking are entirely done away with, while all its virtues are preserved and utilized."

WASHING HONEY FROM THE CAPPINGS.

And how it may be Utilized in the Making of Vinegar.

In many industries a large share of the profits come from a utilization of the by-products, or what would ordinarily be termed waste. In the production of extracted honey considerable of the honey adheres to the cappings. Most of this will drain out, but not all of it. If the cappings are kept separate and rendered by the sun extractor, this honey may be saved, but I have never seen any that was not injured more or less in flavor. Probably there is no more practical plan for saving this honey than by washing the cappings in water, and then making vinegar of the water. A most excellent article on this subject was contributed to the Progressive Bee-Keeper, last fall, by Mr. S. E. Miller, of Bluffton, Missouri. Mr. Miller says:—

"Up to a short time ago I used to wash the cappings and then squeeze them into balls after which I placed

them in the kettle for rendering. A month or two ago I adopted a different method which I consider an improvement, and, as it may be of interest to some of the readers, I will describe it. In the first place I leave the cappings in the uncapping can for several days, sometimes for a week or two, and occasionally take the honey knife and cut down through them, and stir them about so as to liberate as much of the honey as possible. When ready to render the wax, I take a tub and put in it rain water equal to about two-thirds of the amount of cappings I intend to wash in it (by measure). I find that after the cappings have been well drained, there still remains in them enough honey to make good, strong vinegar by using the above proportions of water and cappings.

The water should be of a temperature so as to feel slightly warm to the hand. I have not tested the temperature but think it should be little if any above 100 degrees Fahrenheit. If too warm it will soften the cappings, and this we do not want. They should remain somewhat brittle. If too cold it will not readily free the honey from the cappings.

When the water is ready the cappings are thrown into it, thoroughly washed and stirred about and well broken up with the hands. After the cappings are thoroughly washed, instead of pressing them into balls as I used to do I throw them back into the uncapping can to drain and allow them to remain as loose as possible. After they are well drained they are put in the pan or kettle for rendering.

The advantage that I claim for this method over the one of squeezing them into balls is: First, the water drains from the cappings much sooner, and, second, in this loose form they are more readily attacked by the heat and will therefore melt in a shorter time. Anyone who has never tried this method, I think will find it an improvement.

As I have described my method so far, I may as well tell what I do with the water used for washing the cappings. As this sweetened water will make excellent vinegar it would certainly be a great waste to throw it away. I therefore put it in a barrel or keg having the head removed, and also add to it the water that is used for washing or rinsing the extractor and other utensils that have become daubed with honey. At times we also have small quantities of honey that are off in color or for some reason not fit to offer for sale and if not needed to feed the bees, this is used by mixing it with the proper proportion of clean water. All odds and ends of honey are used in this way. The barrel is placed in an out of the way position in the honey house and a piece of cheese cloth thrown over it and a board laid over this to keep it in place, or else the cloth is tied in place. We should aim to exclude flies and all insects and yet expose it to the air as much as possible.

If the water is warm, fermentation will set in in a few days and in a week or two we will find a thick scum on the surface of the liquid. This I remove about every week or ten days, or as often as it accumulates to a considerable extent. Each time after removing the scum I take a dipper or cup and dip out a cup full and pour it back from a height of two or three feet. This I repeat some ten or twelve times. It also hastens fermentation if a quantity of mother from old vinegar is added. Some may claim that it is not necessary to remove the scum as it will finally settle to the bottom of the barrel and do no harm, but I once made a lot and neglected to remove the scum and this was so bitter that it was not fit for use, and I see no use in having it in the vinegar when it can be so easily removed. If the barrel or keg is removed to a warm room on the approach of cool or cold weather the vinegar should be fit for use within six months after the time it was made. When it is finished it should be carefully dipped or poured off into a clean receptacle, or what is better, draw it off with a hose, being careful not to disturb the sediment at the bottom of the barrel. When you have this you have an article that you know is pure and good and do not have to go to your grocer and purchase so-called "pure cider vinegar" that is more than likely made of water and poisonous acids that are not fit to be taken into the stomach.

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In a fine basswood and clover location; bees in fine chaff hives with five inches of packing; and there are fixtures for producing both comb and extracted honey; but all must be sold on account of poor health. Address 6-04-1t

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EVERYTHING
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Before the re-construction of the management of the old firm; the Minn. Bee-Keepers' Supply Co. manufactured a lot of shallow, story-and-a-half hives . . . We don't want them. They're going to be a snap for some one.

One story, in lots of five, each, 90 cts.
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They're just a regular hive—except they're shallow—7½ inches deep instead of 9½. Dovetailed, tin-jointed covers, reversible bottoms, and 8 frames. There isn't a thing wrong with them—if there was, we wouldn't put them on the market to give away as premiums.

In this ad we've told all there is to tell about them—unless it might be that it's only two years since they were made. They're simply taking up valuable room—a commodity that is worth a lot of money to us. Better order right away—to day—your neighbor may tomorrow—and they'll only last till they're gone.

Minnesota Bee-Keepers' Supply Company

Minneapolis, Minn.

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Either Golden or Honey-Queens before July 1.

Our GOLDENS will come up with any other Golden strain. Our HONEY-QUEENS are what some breeders call "Red Clover Queens."

	1	6	12
Untested	$1.00	$ 5.00	$ 9.00
Tested	1.25	7.00	13.00
Breeders	5 00	....	....
2 frame Nuclei(no queen)	2.50	14.00	25.00

Nuclei will be ready to ship the latter part of May or 1st of June. When Queens are wanted with Nuclei add price of any Queen wanted. We guarantee safe arrival of all Queens and Nuclei. Our Breeders may be returned after 30 days if satisfaction is not given. Cash must come with orders. Orders are booked and filled in rotation.

Mr. Gus Picaman, of Litchfield, Ill., in aletter of Aug. 3, 1903, says: "Send me two untested honey queens. The one I bought of you two years ago is all right. There are no better."

Mr. Frank D. Gonderson, of Oconomowoc, Wis. says in a letter dated Aug. 1, 1903: "I like your queens the best of any that I have ever had." This man placed an order last August for 24 Nuclei to be delivered this spring.

Address all orders to

D. J. BLOCHER, Pearl City, Ill.

6-'04-tf

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RURAL BEE-KEEPER.

Address

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6-04-tf

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Write for discounts on large orders.

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Fredericksburg, Virginia.

6-04-tf.

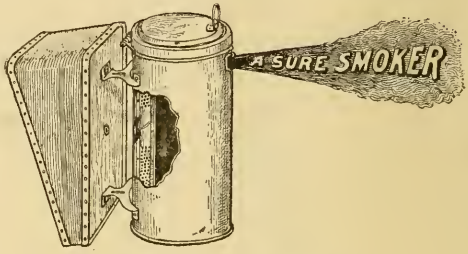
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MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

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20th Century

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It has a perforated draft-grate at the side that strengthens the fire-cup and holds a removable lining and packing in place, that keeps the fire-cup cool, thus adding to its durability. This lining can be replaced at small cost.

The draft-hole is midway of the fire-cup, directly opposite of the only opening in the bellows, from which the air is forced and deflected upward or downward, or both ways, as desired, to secure a dense or hot or cool volume of smoke, which is determined by the filling and lighting of the fuel.

It is superior in make-up and material.

It has no parts that can clog with soot.

It will continue to smoke from three to ten hours, in light work, until all the fuel is burned.

It wins friends who willingly recommend it to others.

Full directions for use, and preparing special fuel for subduing bees and destroying the eggs and larvæ of the wax-moth, with each smoker.

PRICES:

$1.00 each; three for $2.70 when sent with other goods. By mail, each 25 cents extra.

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St. Louis, = Missouri.

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Advertisers should consider that this is the only bee journal that thoroughly covers the West. An ad in our journal brings results.

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"Not like any other."

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Editor and Publisher,
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Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

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There is a difference in bees in regard to their disposition, industry, and various other traits. Every bee-keeper, especially if he has different strains of bees, will notice here and there a colony far out-stripping the general average—if the whole apiary came up to these, how the crop would be increased. Send to J. P. Moore, Morgan, Ky. and get the neatest circular ever sent out by a queen breeder, and read the testimony of experienced bee-keepers who have tried his stock side by side with that of others.

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Beats many other combinations. The three famous trains of the

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The Southwest Limited, Chicago to Kansas City. The Pioneer Limited, Chicago to St. Paul and Minneapolis. The Overland Limited, Chicago to Omaha and San Francisco. On your next western trip, why not go one way and return another?

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Daughters of select, imported Italians, select long-tongue (Moore's) and select golden, bred 3¼ miles apart, and mated to select drones. No impure bees within three and only a few within five miles. No disease—31 years of experience. All mismated queens replaced free. Safe arrival guaranteed.

	Prices before July			After July 1		
	1	6	12	1	6	12
Untested.....	$ .75	4.00	7.50	$ .60	3.25	6.00
Select.....	1.00	5.00	9.00	.75	4.25	8.00
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Untested queens ready April 20th

JOHN M. DAVIS

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FOR

MARCH AND APRIL

No. 1 Sections, $4.00; No. 2, $3.50, Plain Section 25 cts less. Dovetailed Hives, 8-frame, 1½ Story, in lots of 10, $1.25 each; lots of 20, $1.15 each; lots of 50, $1.10, 10-frame for 15 cts more per hive. The Poor Man's Hive, rabbeted, $1.00. Foundation, Smokers, Frames, etc., in stock. Price list free.

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And her quality is what your surplus depends upon. Knowing this, we use extra care in the selection of our breeding stock. Selected queens are given one year's trial in our out-yards, and those only are used for breeding that have shown a marked superiority in the yield of surplus honey.

Tested and untested queens and nuclei are now ready for shipment. Send for 64-page catalog giving prices on bees, queens, hives, and other supplies.

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Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

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Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

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We manufacture BEE SUPPLIES of all kinds, (been at it over 20 years). It is always best to buy of the makers. New illustrated catalog free. For nearly 14 years we have published The American Beekeeper, (monthly, 50 cents a year), the best magazine for beginners. Edited by one of the most experienced bee keepers in America. Sample copy free.

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JAMESTOWN, NEW YORK

Wm. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save freight.

IT PAYS TO BUY

Standard Bred Queens.

We have them true to name.
Buckey strain 3-banded Italians.
Golden Italians.
Carniolans.

We guarantee safe arrival. Ready to mail April 15th.

PRICES.

	One	Six	Twelve
Untested,.....	$ .75.....	$4.00.....	$7.50
Select.....	1.00.....	5.00.....	9.00
Tested.....	1.50.....	8.00.....	15.00
Select Tested.....	2.00...	10.00.....	18.00

Select Breeders $3.00

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Complete stock for 1904 now on hand. Freight - rates from Cincinnati are the lowest. Prompt service is what I practice. Satisfaction guaranteed. Langstroth Portico Hives and Standard Honey-Jars at lowest prices. You will save money buying from me. Catalog mailed free. Send for same. Golden Italian, Red Clover and Carniolan untested queens during June, 75c each; six for $4.00; $7.50 per doz.

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A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

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6-04-tf Send for Catalog

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That's the yearly subscription price of the latest and best journal in the interest of farming, fruit-growing and cattle-raising. It will acquaint you with the conditions, climate, life and opportunies of the Great Southwest. Issued monthly; profusely illustrated. Address, for sample copy, THE EARTH, 1118 Railway Exchange, Chicago.

Bee-Keepers

Send for our free catalog. It will tell you how to put foundation into four sections at once; and the only way to get a full section of honey. We sell G. B. Lewis goods at their prices. 5-04-2t

A. Coppin, Wenona, Ills.

The Beekeepers' REVIEW

For 1904

THE Review never had more subscribers, better correspondents, greater mechanical facilities, or a mone experienced editor; in short, it was never more fully equipped, than at present, for helping bee-keepers, It will use all of these advantages the present year in taking up and disussing two of

The Most Important Subjects

connected with bee-keeping, viz., the production of large quantities of honey, cheaply, and the selling of it at a high price. The first few issues of this year, are and will be, especially devoted to the discussion of the first-mentioned topic, then in July or August, marketing will be taken up and continued through the year. I do not mean that other important matters will not be touched upon, but that special attention will be given to these two.

For instance, last year, Mr. F. E. Atwater, of Boise, Idaho, with only one helper,

Managed 11 Yards

scattered from seven to eighteen miles from home, and in the January Review he had a long article describing the hives, implements, and methods, that enabled him to accomplish this feat.

Mr. E. D. Townsend of Remus, Michigan, is

The Most Extensive Apiarist

in this State; managing out-apiaries with the least possible amount of labor, much of it unskilled at that, and making money out of the business, and he is telling the readers of the Review "how he does it." I think I am safe in saying that no more valuable contributions have ever appeared in the Review than those that are being furnished by Mr. Townsend—particularly for the specialist. They contain little that is startling, or revolutionary, their chief value being the short-cuts and systems that enable him to manage many colonies with little labor. The series of articles began in January, and will probably run through the year. They are all practical, like the one in this issue. Later in the season he will write on marketing and wintering.

Mating 300 Queens

by using the bees of only one colony would seem to be an impossibility, yet W. H. Laws, of Beeville, Texas, has been, for the last year, practicing a method that not only enables him to do this, but allows of the introduction of virgin queens that are from five to seven days old, avoids all trouble from fertile workers, prevents loss from absconding, and queens may be mated in a locality free from objectionable drones. This method is illustrated and described in the March issue of the Review.

The beginning and the end of the honey season are

Critical Points.

To induce the bees to promptly take possession of the supers, to wind up the season with nearly all of the sections completed, yet lose none of the honey that the bees can store, are most desirable accomplishments; yet James A. Green, of Grand Junction, Colorado, has an article in the April number telling how all of these things may be managed by what he calls his "Combination System."

Mr. M. A. Gill, of Longmont, Colorado, last year, with the assistance of his wife and one other helper, managed 1,100 colonies, increased them to 1,600, and shipped

Two Carloads of Comb Honey.

Last month the Review published an article from Mr. Gill in which he told exactly how he managed—particularly in regard to the swarming-problem.

Sold 20,000 lbs.

When it comes to the marketing, I have on hand an article by Mr. H. C. Ahlers, of West Bend, Wisconsin, in which he tells in detail how he has built up a trade in selling extracted honey direct to consumers, in which he last year sold 20,000 pounds, and most of it at *12 cents a pound!*

The Home-market

is something that many of us have neglected as too small to be worth noticing, especially if it is only a small town, but our energetic General Manager of the National Association, Mr. N. E. France of Platteville, Wisconsin, manages to sell about 8,000 pounds a year, if I remember aright, in his little home-city, of only 4,000 inhabitants. He does no peddling, it is all sold at the groceries, butcher shops, and the like, and he so manages as to get eight cents a pound for it. What that management is, how the honey is put up, the package, in fact the whole *modus operandi* will be described by Mr. France in the Review, long ere the time comes to put this year's crop on the market.

A Honey-Route,

in something the same line as a milkman has a route, has been inaugurated and put in practice for several years by Mr. C. F. Smith, of Cheboygan, Michigan. There is no peddling about it. On certain days, except during the busy time of the year with the bees, Mr. Smith goes over a certain route, calling at certain houses and delivering a certain amount of honey. In this way he sells all of his own extracted honey at 13 cents a pound, and then buys and sells thousands of pounds besides. How the honey is put up, how the route was established, how he knows at which houses to call, and how much honey to bring, etc., will be told to the readers of the Review in an article that Mr. Smith is now preparing with much care as to detail and helpfulness.

So much in the way of retailing honey, and we now come to the subject of selling honey direct to retail dealers, instead of sending it to commission merchants who, in turn, sell to the retailers. This is

A Big Field,

and one that has been little worked, but I have found a man who has had a lot of experience in this line, Mr. S. A. Niver, formerly of New York, but now of Chicago. For several years, quite a

number of extensive bee-keepers near Groton, New York, turned their crops of comb honey over to Mr. Niver, who graded and crated it, and then packed a case with samples, and went out as a "drummer," selling direct to the retail trade, going over the same ground more than once, taking orders and collecting for the honey. I have an article from Mr. Niver telling of his success. It is long, readable, full of humor, and of suggestions for some man to go and do likewise. Mr. Niver is now at work preparing an article on retailing honey to city customers.

The foregoing are only a few of the good things that are in store for the readers of the Review—these are given simply as samples. The prospects for

Making Money

in bee-keeping were never brighter for the man who will arouse himself, wake up to the changed conditions of things, and take advantage of the changes. One thing is certain, if you are a bee-keeping specialist, if bee-keeping is your *business*, you can't afford *not* to

Read the Review.

It will lead you, and encourage you, and fill you with ideas, and tell you how to do things—show you how to enlarge your business and *make money*.

Send $1.00 for the Review for 1904, and long ere the year is out you will admit that it was the most profitable investment you ever made.

W. Z. HUTCHINSON

Flint, Michigan

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr.	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

NOT IN THE TRUST.

The oldest bee supply store in the East. Sells best goods at former prices. Send for catalog. Successor to A. J. King.

J. H. M. COOK, New York City

3-04-4t 70 Cortlandt St.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. We have had 21 years of experience in queen rearing, and our queens are all reared by up-to-date methods. Untested, 75 cts. each, or $8.00 a dozen; tested, $1.00, or $10 00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular. G. RONTZAHN,

4-04-6t Biglerville, Penn.

Choice Queens

For 1904

We are again offering queens of the best stock obtainable. Untested queens, Golden, Leather Colored, or Carniolan, warranted pure, 75 cts each, or $7.50 a doz. Tested, $1.25 each, or $12 per dozen.

Geo. J. Vande Vord

4-04-tf Daytona, Florida.

Marshfield

MANUFACTURING CO.

Marshfield, Wisconsin, makes a specialty of **Sections,** and they are the best in the market. Wisconsin basswood is the right kind for them. They also have a full line of **Bee - Supplies.** Write for free, Illustrated Catalog and Price List.

3-04-4t

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

Oldest Supply house in

MISSOURI

Your wants fully supplied with anything needed in the apiary. ***Full stock of Root's Goods.*** Danzenbaker hives, Bees and queens. Let us mai lyou our 40-page catalog—FREE.

4-04-4t JOHN NEBEL & SON, High Hill, Mo.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold.
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.



QUIRIN The Queen BREEDER

Has a strain of Italian bees in which prolificness and honey-gathering are developed to a high degree. His location furnishes a continuous honey-flow throughout the season, while the broad, extended prairie surrounding his yard allows of no undesirable drones in bee-trees. He expects to keep on hand from 600 to 1,200 queens, and be able to fill orders by return mail, guaranteeing safe arrival, at the following prices ;—

	Before July			After July 1st		
	One	Six	Twelve	One	Six	Twelve
Select	$1.00	$5.00	$9.00	.75	$4.00	$7.00
Tested	1.50	8.00	1 .00	1.00	5.00	9.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00
Breeders	4.00			3.00	15.00	
Straight five-banded breeders	6.00			5.00		
Two-frame Nucleus, no queen,	2.50	14.00	25.00	2.25	12.00	22.00
Full colony, on eight frames,	6.00	30.00		4.00	22.00	

Send for Circular giving many particulars that lack of space forbids mention here. ***FOLDING CARTONS*** at only $4.00 M, so long as present stock lasts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

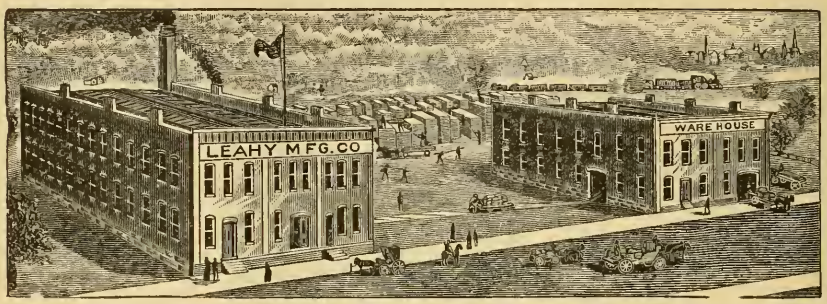
Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them : Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. Wo do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—Honey stock is well cleaned up, and demand good. Beeswax in good demand. We quote as follows:—No.1 white, $2 50 a case; No.1 amber, $2.25 a case; White extracted, 6½c; amber, 6c; beeswax, 30c.

WALKER-BREWSTER GROCER CO.,

May 3 423 Walnut St. Kansas City, Mo

CINCINNATI—The demand for honey is brighter than it has been in the past sixty days. We continue to offer Amber Extracted in barrels at 5½ to 6½ cts, according to quality. White Clover Extracted is a drag on the market at 6½c to 8 c in barrels and cans. Comb honey seems to be reviving at 13½c to 15c for fancy. Beeswax is wanted by us at 30c per lb delivered here.

THE FRED W. MUTH CO.

March 29 Cincinnati, Ohio.

BUFFALO—All grades of honey very dull, and can only be sold by severe cutting of prices. Don't ship here at present, unless willing to accept low prices. We quote as follows:—Fancy white, 12 to 13c; No.1, 10 to 11c; fancy amber, 9 to 10c; No. 1, 8 to 9c; fancy dark, 8 to 9c; No. 1 dark, 7 to 8c; white extracted, 6 to 8c; beeswax, 25 to 32c.

BATTERSON & CO.

May 2 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—The season for selling honey has been prolonged on account of the cold weather, which has certainly been very fortunate for the bee-keeper, as there never was as much honey shipped in so late in the season to be disposed of. It has broken the price quite considerably, but there is still quite a demand, which otherwise would have fallen off. We quote as follows:—Fancy white comb, 13 to 14c; No. 1, 12c; amber and buckwheat, 9 to 10c; Extracted buckwheat, 7 to 8c; amber, 6 to 7c; beeswax 31c and in good demand. We are producers of honey and do not handle on commission.

WM. A. SELSER,

March 30 10 Vine St. Philadelphia, Pa.

CHICAGO—The market is heavily supplied with comb and extracted, neither of which are meeting with any demand; especially is this true of the comb honey. Prices are uncertain, as those having stock are anxious to sell it; therefore, it is difficult to quote prices. The best grades of white comb bring 11 to 12c, anything off, from choice to fancy, is not wanted. Extracted white, according to quality, sells at 6 to 7c; amber, 5 to 6c; beeswax 30 to 32c.

R. A. BURNETT & Co.,

April 7. 199 So. Water St., Chicago, Ills.

NEW YORK—Market quiet, especially on Comb. Fair demand for extracted. Beeswax scarce and wanted. We quote as follows:—Fancy white, 13c; No. 1 fancy amber, 11c; No. 1. 10c; white extracted, 6½c; amber, 5½ to 5¾c; dark, 5c; beeswax, 29 to 30.

HILDRETH & SEGELKEN,

265 & 267 Greenwich St., Cor. Murray St.

May 2. New York.

CINCINNATI, OHIO—The honey market continues to be dull; if anything, the prices on comb are lower; concessions are made on bigger lots. I quote: fancy white comb from 12½ to 14c. Sales on extracted are made at the following prices; Amber, in barrels, 5¼ to 5¾c; in cans, ½c more. Alfalfa, water white, 6 and 6½c; strictly white clover, for extra fancy, 7¼ and 8c. Beeswax 30c.

C. H. W. WEBER,

May 2 Cincinnati, Ohio.

CHICAGO—We report a very good trade on Comb and Extracted Honey during the month of April, at which time we greatly reduced our stock. If producers still have any honey unsold, would advise letting it come forward; no doubt we could dispose of it so as to show satisfactory results. We quote as follows: Fancy white, 12 to 13c; No. 1, 11 to 12c; white extracted, 6 to 7c; amber, 5 to 6c; beeswax, 29 to 31c.

S. T. FISH & CO.,

May 3. 189 So. Water St., Chicago, Ills.

KANSAS CITY, MO.—Demand for honey is good; supplies light, and we look for higher prices. We quote as follows: Fancy white, $2.50 per case; No. 1, $2.40; fancy amber, $2.25; white extracted, 6½c; amber, 5½c; beeswax, 30c.

C. C. CLEMONS & CO.

May 2 Kansas City, Mo.

ALBANY, N. Y.—The honey market is dull and it looks as if some would have to be carried over the season. A large portion of the stock is candied hard in the comb, from the long, cold winter. We quote as follows: Fancy white, 13 to 14 c; No. 1 white, 12 to 13 c; fancy amber, 11 to 12 c; No. 1 amber, 10 to 11c; fancy dark, 11 to 12c; No. 1 dark, 10 to 11c; white extracted, 6 to 6½c; amber extracted, 5½ to 6c; dark extracted. 5 to 6½c; beeswax, 28 to 30c.

H. N. WRIGHT,

Wholesale Commission,

April 1 Albany, N. Y.



BOOKLETS

—FOR—

BEE-KEEPERS

Modern Queen Rearing

By Geo. W. Phillips, foreman of the queen rearing yards of The A. I. Root Company. Anyone can supply his own apiary with the best queens at a little cost. This booklet gives simple, complete directions for doing so. All can understand it. The method itself is the best. It is no particular "system" of one man but embodies the best in them all. An expert can gain information from this book while the novice will find nothing but what he can understand and do.

Price, 15c post paid

How to Produce Extracted Honey

Every bee-keeper who runs for extracted honey should read this booklet. It is full of valuable information. Many labor saving devices and plans are explained. It tells how to care for and work the extracting machine: uncap combs, etc. How to render cappings and broken combs. Also how to put up honey in the most attractive form for retailing. It gives in fact everything that is wanted on the subject in the cheapest possible form.

Price, 15c post paid

Special Offer—Both Books for 25 cents

THE A. I. ROOT COMPANY

MEDINA, OHIO



JULY, 1904.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 198

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, July 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

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I will send the REVIEW with—

Gleanings, (new)	($1 00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rocky Mountain Bee Journal	(1 00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1 85
The Century	(4.00)	4 50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1 00)	1.75

National Bee - Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership, $1.00.

Send dues to Treasurer.

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President.

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Vice President

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C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers
TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J. ..	130	W. Va....	172
Iowa..	800	N. H. ..	158	Wash.....	128
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address: 2-0-7t

J. E. Merritt,
Gen'l. Mgr.

Michigan Land Co.,
Manistee, Mich.

If the REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids,
Agents for Michigan 3-04-10t

IT PAYS to send your orders a distance of 1,000 miles
—FOR—
BEE-SUPPLIES
to *R. H. SCHMIDT CO., Sheboygan, Wis.*

LARGE, HEALTHY, PROLIFIC,

Beautiful Italian Queens sent promptly by return mail at only **50 cts each.** Safe arrival and Satisfaction guaranteed. J. W. K. SHAW, & CO.
7-04-tf Loreauville, La.

Please mention the Review.

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES
6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich.

BEWARE
WHERE YOU BUY YOUR
BEEWARE
LEWIS WATERTOWN, U.S.A.
MAKES THE FINEST

Send for Catalog
THE G. B. LEWIS CO.
Watertown, Wis.
U. S. A.

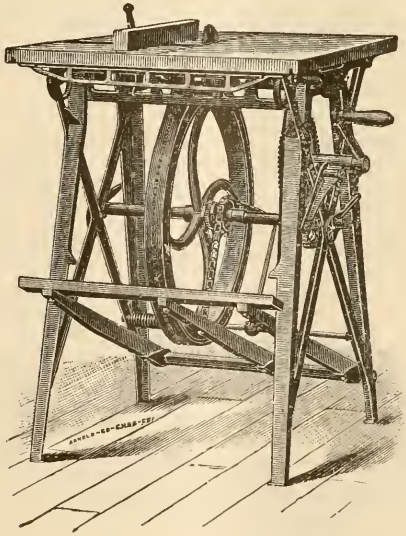
Make Your Own Hives.

Bee - Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,
384 Ruby St.,
Rockford, Ills.
4 -04-19t



QUEENS GOLDEN ITALIAN and LEATHER COLORED,

Warranted to give satisfaction, those are the kind reared by **Quirin-the-Queen-Breeder.** We guarantee every queen sent out to please you, or it may be returned inside of 60 days, and another will be sent "gratis". Our business was established in 1888, our stock originated from the best and highest-priced **Long-Tongued Red-Clover Breeders** in the United States. We send out fine queens, and send them promptly. We guarantee safe delivery to any State, Continental Island or, European Country.

The A. I. Root Co. tells us that our stock is extra fine, while the editor of the American Bee Journal says that he has good reports from our stock, from time to time. Dr. J. L. Gandy, of Humboldt, Neb., says that he secured over 400 bounds of honey (mostly comb), from single colonies containing onr queens.

Last winter was a severe test on bees, but **QUIRIN'S** famous Leather Colored Italians wintered on their summer stands, within a mile of bleak Lake Erie.

Our new circular now ready to mail. Address all orders to

Price of Queens After July First

	1	6	12
Select	$1 00	$ 5 00	$ 9 00
Tested	1 50	8 00	15 00
Select Tested	2 00	10 00	18 00
Breeders	4 00		
Straight 5-band Beed's	6 00		
Palestine Queens	2 00	10 00	18 00
2-comb nucl'i no queen	2 50	14 00	25 10
Full colony on 8-frames	6 00	30 00	
4 fr's brood, 4 fr's fdn.	5 00	25 00	

Special low price on Queens and Nuclei in 50 and 100 lots. Nuclei on L, or Danzenbaker frames.

Quirin-the-Queen-Breeder, Bellevue, Ohio.

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

Oldest Supply house in

MISSOURI

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4-04-4t JOHN NEBEL, & SON, High Hill, Mo.

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W. H. LAWS, Beeville, Texas.



Honey Packages for the Retail Trade.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, JULY 15, 1904. NO. 7.

Selling 14,000 Pounds of Honey Yearly to 3,000 People.

BY N. E. FRANCE.

THE nearer home the producer can sell his honey, the greater the profit. Every time it is sold, through dealers, there must be a profit, which reduces the price the producer will get. Each handling of honey, the same as with fruit, injures its appearance more or less for market, and that means slow sale at a lower price. The many bee-keepers who have educated themselves in the production of honey, have neglected the just as important part, how to prepare it for the market and sell at good prices. If the dealer has to clean the sections, then grade as he crates, and pay for traveling salesman to sell the goods, it all costs, and the loser is the producer; as he gets only what is left. Don't hurry your honey on the early market, unless the demand and price will justify it.

MANY COMMISSION HOUSES DO NOT HANDLE AND CARE FOR HONEY PROPERLY.

Most of the commission dealers handle fruit, vegetables, poultry, etc., as well as honey. Last fall, by request, I called on several such dealers in large cities to learn *why* certain bee-keepers' honey was not sold. Each dealer said he could not sell honey so long as the big supply of perishable fruit was on his hands: the honey would keep, and he could sell that later. I found tons of once fancy comb honey, also extracted honey, in their *cellars*. The comb honey had a bad, watery appearance, was in soak-stained cases, and the barrels and kegs had been rolled in the coal dust on the floor. Besides this, some thin, extracted honey was working out, and souring. Do you wonder the honey was slow selling, and the the bee-keepers talking of the National Association selling the honey?

THE DAMAGE DONE BY PUTTING UNRIPE HONEY ON THE MARKET.

Another cause of slow sales is, many are not careful to extract well-ripened honey. In southern California and parts of Texas, and Arizona, where there is scorching sunshine every day, and the honey is nearly ripened in the

flowers, it may be possible for the bee-keeper there to take ripened honey before being capped by the bees. I have been in many of the States from California to New York, and I fail to find any other locality where the quality of honey is like that ripened and capped over in the hive by the bees. In New York, buckwheat honey, if ripened well, sells easily; but I will guarantee that any market will soon be ruined with a little unripened, sour honey. American people eat an abundance of sweets, and are willing to pay a fair price if they know it is pure, and not injurious to health.

Get our honey before the people in neat, attractive packages, the same as any canned goods, then, in a short time, by a little advertising, we will be sold out, and buying more honey to fill our orders.

ADVERTISING EXTRACTED HONEY AND PUTTING IT UPON THE HOME MARKET.

My little home-city of 3,500 people, consumes, each year, about 14,000 pounds of extracted, and 700 pounds of comb honey, besides some adulterated syrup that is sold to those who wish something "cheap." All this without any "peddling." Just thirty years ago we sold comb honey, in large boxes, at 25 cents per pound. We then got our first extractor. I wrote short articles for our local papers, telling how the honey was extracted, and how much better it was than the old-fashioned strained honey mixed with bee-bread and other foreign material. At public gatherings, in the city park, I took combs of honey, the extractor and uncapping knife, in the band-stand where all could see the honey extracted. Then I passed around the combs, also the honey in my nicely labeled pails with a spoon to sample it with. I was careful to advertise that such honey was for sale in every produce store in the city, at *the same price as I there sold it.* Sometimes, if sales were not as good as usual, we would take the light wagon with a barrel of nice honey, the barrel fitted with a faucet, and scales to weigh with, and peddle out one or two barrels, taking special pains to inform customers that they could get more like it at any time in nearly any store in the city, and, *at the same price*—10 cents per pound.

THE MOST DESIRABLE PACKAGES FOR RETAILING AND SHIPPING EXTRACTED HONEY.

For a few years we bought glass, Mason fruit jars to supply stores with, and then we got a better package, the common tin pails, holding 2, 3, 5, and 10 pounds, respectively. This worked well, except that once in awhile the driver would break a jar, or get a pail cover off, in either case he was sure to have a muss in the delivery wagon, if not on some goods. I then changed to the friction top cans and pails, the same package now used in every grocery store to sell syrups in. They never leak, nor break, and are easily opened. They are the best package for honey I ever saw. I buy cans of the American Can Company, Chicago, at the following prices:—

For home market:—

2 pound cans @ $2.15 per 100 F. O. B. Chicago.
3 pound cans @ $2.75 per 100.
5 pound pails @ $4.75 per 100.
10 pound pails @ $6.25 per 100.

Shipping packages:—

Basswood barrels, 350 pounds, 85 cents each at Menasha, Wis.
Kegs, 50 pounds, 23 cents.
5 gallon square cans, 2 in a case, 57½ cents at Cleveland factory.
5 gallon round cans, flat top, screw cap, jacketed, @ 31 cents in small lots, or 30 cents in 150 can lots, F. O. B. Chicago.

For the city trade the 2- and 3-pound sizes sell best. The 5- and 10-pound sizes are best for the farmer-trade.

For shipping to market, the last named package (five-gallon, round can with flat top) is by far the best selling, also the easiest handled, and the best in which to liquify honey in, at any house. Every retail package has my label on, and the price marked thereon, which, most of the time, has been sold at 10 cents per pound for the honey, then add the cost of the package. During the last two seasons I have changed it to 8 cents for the honey. The meat markets each sell from $50 to $150 worth of honey per year. General grocery stores sell the most.

As for the pay for the honey, the merchant is satisfied with the profit on his goods, but if I draw any money it is at 10 per cent. discount. To save this discount I get my neighbors, and often some of my hired help, to take an order on some store for whatever they may want.

In the cool rooms of the meat markets, honey soon becomes granulated, and, once in a month, during winter weather, I see to it, if all packages are granulated, to exchange some for freshly liquified ones; take those home and set the cans in a little water, then, when liquified, put on new wrappers, and they are again ready for market. Many now prefer the granulated. As each package has directions how to easily melt the honey, there is less demand for the exchanging of cans. The frontispiece this month shows the various sizes of packages as they are prepared for market.

Now, if, by a little effort, I can sell from 14,000 to 15,000 pounds of honey each year, at home, in this little city, I see no reason why others cannot do as well, or better, and thus all get better prices, enlarge our circle of neighbors and friends, and become better and more useful citizens.

PLATTEVILLE, Wis., April 4, 1904.

Uncapping and Extracting Honey Expeditiously.

BY E. D. TOWNSEND.

NOW that the "shook-swarm" method of managing out-apiaries has been disposed of, we will come back and finish up the description of our method of producing extracted honey.

With our method of leaving the honey on the hive until after the season closes, before extracting, a large per cent. of it is sealed; in fact, many upper stories are full of honey that is sealed clear to the bottom-bar.

Before we can extract, the problem of uncapping confronts us; and it is no small matter, either, as it takes quite a long experience to acquire the knack of handling the uncapping knife, that the results will be satisfactory. My eldest son, Delbert, 16 years old, does the lion's share of the uncapping, while Arthur, 15 years old, handles the two-frame, Cowan extractor. To uncap to the best advantage, the upper stories of honey should be stacked up so near the uncapping tank, that one can stand in a good position to uncap, and still be able to reach the honey without moving. About three upper stories high is right. Then, on the side towards the extractor there should be an empty upper story with a pan under it to catch the drip. This is to put the

combs in after uncapping. If placed on top of two upper stories, it is about the right height.

A RACK FOR HOLDING UNCAPPED COMBS

In place of this upper story for holding the combs of honey after they are uncapped, it may be well to describe an arrangement that we are having made for this purpose. Imagine a hive body 20 inches wide, without sides, with legs at each corner, made of $\frac{7}{8}$x3 inch strips nailed on the outside of the ends, even with the top, and long enough so as to make it the right height for convenience. We are making the legs of ours a little long, and they will be sawed off at the bottom when we find the length we want them. The ends, instead of being solid boards, will be made of strips two inches wide, twenty inches long and seven-eighths of an inch thick, without rabbets; then, down on the legs, eleven inches from the top, will be nailed more of the strips, and, on top of these strips, four more will be nailed, at equal distances apart. These last are to set the dripping pan on. More braces can be nailed on lower down if necessary. Now we have a box, without sides, $18\frac{1}{4}$x20 inches and ten inches deep, furnished with legs.

We now go to the tinsmith and have him make a dripping pan 19x20 inches in size, one or two inches deep, with an inch hole in the middle of the bottom, into which is soldered an inch-spout, projecting downwards, beneath which a pail is to be set.

UNCAPPING ONE SIDE OF A COMB AT ONE CLIP.

We now see that the Bingham uncapping knife is sharp; take a frame of honey with both hands in the usual way, place it on end, resting it upon the two sticks above the uncapping tank. With the left hand near the top, the frame is held in a convenient position until we get our knife started at the bottom end. We start in clear across the comb, as we expect to uncap at least 90 per cent. of it the first time over. We hold the knife so the bevel on the under side is in line with the comb. This will throw the lower edge of the knife off, away from the comb, nearly an inch. Now, as we start up, drawing the knife slightly endwise, we begin to push the top of the comb to the right, until it stands perpendicular. We go clear through the whole length of the comb at one cut. If we do a good job, the uncapping will be done, except some spots in an uneven comb, as a little along the bottom bar. If the comb is held right, and the knife likewise, as has been explained, the uncappings will not touch the comb after being cut off, but will go direct into the tank below; and a few touches here and there finishes the work.

ADVANTAGE OF THICK COMBS.

If you have followed us thus far, you will remember we use only eight combs in a ten-frame upper story. This is about 1 $\frac{3}{4}$-inch spacing. With this wide spacing we get great, fat combs of honey, and then we run our uncapping knife *deep*, cutting the comb clear down even with the frame, and there are hardly ever any combs so uneven but what the knife will uncap them the first time over. This makes it possible to uncap much faster, and there are less combs to handle. I do not think it would be putting it too strong to say that two, ten-frame upper stories, with eight combs in, can be uncapped as quickly as *one* with *ten* combs in; and then the eight frames can be extracted in one-fifth less time. Besides this we get a good deal more wax; and I can not see as it costs anything extra, this drawing out of the combs each year. I can not conceive of a more puttering job, then trying to uncap narrow-spaced combs with thick top-bars. Before we began to use wide-spacing in the upper stories, it took two of us most of the time

to do the uncapping, if we made any headway; now Delbert alone will uncap more honey than any two-frame extractor will handle; and we are contemplating putting in a four-frame machine in the future. It is surprising how quickly one of these fat combs can be uncapped. A man who never saw any uncapping done, stood looking at Delbert slicing off the whole side of a comb at one clip, the whole operation taking perhaps four or five seconds, when he remarked: "It's a regular skinning machine! Were I to run that knife like that I would not have any fingers on that left hand, in about three minutes." Probably the worst mistake made in uncapping is in holding the comb at such an angle that the cappings, after being cut off, fall back on the comb, necessitating going all over the comb a second time, to scrape off the loose cappings, thus consuming more time than it took to uncap it in the first place. Then others, when they have run their knife, say one-third the way over the comb, or when they think they have all the cappings their knife will hold, stop and scrape their knife on the uncapping tank; in fact, it does seem as though some parties trying to uncap honey, spend half their time scraping and cleaning their knife. The only time a knife needs cleaning is when one has been so bungling as to get some particles of comb daubed over the edge.

MAKING THE COMBS "BALANCE" IN THE EXTRACTOR.

It does not require as much experience to handle tbe extractor, as it does the uncapping knife, and if the weather is warm, and the combs of even weight, everything will work smoothly; but, as it often happens, the conditions are not always this way. It sometimes happens that it is an advantage to commence extracting in the morning, a little before the honey is warm enough to handle to good advantage; in this case we instruct Arthur, who runs the extractor, something like this: "Now we are commencing a little early this morning, and as last night was a little cold, you will turn at a good brisk speed, the same as usual, only you will have to turn longer. You cannot gain much by turning *faster*, as it takes about so long, anyway, to get the honey out. By watching the spray on the side of the extractor can, and occasionally lifting the combs, you can tell when you have turned long enough; and when you once get the knack, you will know without looking, when they are done, almost the second the honey is all out." Select combs as near of a weight as you can find; and here comes in one of the advantages of the comb-rack, previously described, as this holds several combs, thus allowing a selection. It is not always necessary to select combs that will weigh the same, to balance in the extractor. To illustrate: an upper story that is two-thirds full, will have its central-combs full, but as we go towards each side they commence to be lighter. We will suppose the outside frame has one pound in the side towards the wall of the hive, and two pounds on the side towards the center; the second comb has two pounds on the outside, and three on the other; now; if we put the light side of the light comb, and the heavy side of the heavy one out, when placing them in the extractor, they will after the first turn or two, be of the same weight. This idea comes in play often in putting combs into the extractor. The experienced eye is quick to take in the situation, and put in combs that will balance well.

PUTTING THE HONEY IN THE TANK.

It is not practicable, with our system of setting bees on rented ground, to go into anything elaborate, such as running the honey direct from the extractor to the tank; so the best we can do is to draw it off into a 16-quart pail, and empty into the tank by hand. Now,

there is a right and a wrong way of doing this. A few years ago we used to run our extractor gate open all the time; that is, we would set our pail under the gate, and, when full, shut the gate, and empty the honey into the tank, and, leaving it draining, take a second pail and set under the gate and open the gate again. This plan has objections to it. You have to keep your mind on the pail *all the time;* and even then, you are quite *sure* to let it run over *once in a while*. We even went to the expense of having a galvanized steel pan made to set the pail in so that when the pail ran over, the pan would catch the honey. This fuss and worry is all done away with now. We simply use one pail, and when the revolving frame of the extractor begins to swim, we set a pail under the gate, and, with the 2½-inch gate on the modern extractor, draw out a pail, and, with the honey warm, as it is when first extracted, it does not take one-fourth of a minute, then it is emptied, and the pail is left on the tank to drain until the extractor is full again.

REMUS, Mich. Feb. 22, 1904.

Advertising Honey by Means of Co-operation.

BY WM. HAHMAN.

I read with interest your suggestions in a late issue of the Review on the subject of the bee-keepers doing some advertising to offset the misstatements made by the American Corn Product Company in comparing their product, Karo Korn Syrup, with honey. I also noticed, in the last issue of Gleanings, that the editor suggests that the National Association take up the advertising of extracted honey. I have given considerable thought to the subject of the marketing of extracted honey, and, since you call for suggestions, I take the liberty to set forth my ideas on the subject.

It is a righteous indignation that is aroused in the minds of bee-keepers, when they see such bold statements set forth in the daily papers, and in the monthly magazines, by the American Corn Product Company regarding their glucose syrup. In this instance comparison is simply odious, and no doubt many bee-keepers all over the land feel called upon to do something toward righting this injustice, and telling the public how it is being deceived.

The problem is not a small one, and before anything can be done it is very important that the objects to be desired should be thought out carefully, and then as careful fighting done, on the gain to the bee-keepers in carrying out a campaign of self protection, and what it will cost.

WHAT ARE BEE-KEEPERS LOSING BY THE ADVERTISEMENTS OF THE AMERICAN CORN PRODUCT COMPANY?

To take up, first, the subject of the object to be gained. "What are the beekeepers *losing* by the advertisements of the American Corn Product Company?" It is assumed that the sale of the glucose syrup is displacing the sale of just so much extracted honey,

but this assumption is not strictly correct. The consumption of glucose syrup is largely increased—there is no doubt about that. The consumption of extracted honey *may be* decreased, and probably *is*, but that parties who are and have been buying extracted honey will cease buying honey and buy glucose syrup instead, is probably incorrect. The direct result, therefore, of the pushing of the sale of Karo Korn Syrup, is not to displace the sale of extracted honey with parties who have been using honey, but parties who have never used honey will buy Karo Korn Syrup, they will like it and continue to buy it. These same parties *might* be induced, and probably *could* be induced, to buy honey instead of Korn Syrup if the two articles were offered at the same price and were equally well advertised.

In my opinion, the extensive advertising of Karo Korn Syrup will not result so much in a decrease of the consumption of honey as in the checking of an *increased* consumption of honey, and an enormous increase in the use of all kinds of syrup, particularly of Karo Korn Syrup.

ARE BEE-KEEPERS PREPARED TO FURNISH THE MARKET WITH MORE HONEY?

The question is raised, are beekeepers prepared to furnish the market with a large increase in the amount of extracted honey for consumption, and are they in position to sell this honey in competition with Karo Korn Syrup in like quantities, for the same price? If this question can be answered in the affirmative, without being qualified, then bee-keepers are warranted in taking some steps toward putting this before the public as prominently as the American Corn Product Company is advertising its wares.

From the appearance of the advertisements of the American Corn Product Company I am led to believe that it is spending enormous sums of money on its advertising. The advertisements have an individuality, a personality, and considerable force. This means the services of advertising experts, which cost money. The extent of the advertisements also indicates the spending of lots of money. If it is worth while for the bee-keepers to take up this matter at all, it must be done thoroughly, and with a liberal use of cash and brains. This is a problem entirely too large for the National Bee-keepers' Association. Aside from this, the National Association is not the proper organization to carry on this work. The object of the National Association, as I understand it, is to help the *members of this Association*, and the membership of the National Association is too small to carry out this work properly. Since each member pays the same dues, regardless of the quantity of honey put on the market, it would be unjust to the small bee-keepers to contribute their funds to be used for the larger benefit of the extensive bee-keepers.

WHAT CAN BE HOPED FOR FROM ADAERTISING?

To take up the second subject, what is gained by the bee-keepers, and what is it going to cost? If bee-keepers are putting on the market, say 1,000,000 pounds of honey, and they get $50,000 for it, the object of extensive advertising should be either to increase the quantity sold to 2,000,000 pounds, and get $100,000 for it, or to put on the market 1,500,000 pounds and get a better price for it, making an income of say $100,000. Do bee-keepers want to do either *one* of these things, or a combination of *both?* How much is it worth to bee-keepers to secure the extra $50,000? If either of the objects can be secured by the expenditure of $25,000, then bee-keepers ought to take hold of it.

If there is nothing better in sight than to continue selling 1,000,000 pounds of honey at $50,000, there is nothing to be gained by rising up in wrath and denouncing the American Corn Product Company for interfering with the bee-keepers' business. It is simply a business proposition of raising a certain amount of cash to spend in the legitimate object of increasing the sale of the product of the apiary.

I firmly believe that the American bee-keeping industries should combine to carry on this large work of increasing the consumption of their product. They should not leave the sale and the pushing of the sale entirely to the middleman. As long as they do that, they must sell their product at five cents a pound, and make the consumer pay twenty or twenty-five cents a pound for honey.

AN ORGANIZATION COULD BE FORMED FOR ADVERTISING PURPOSES.

I believe that an organization should be formed under such a comprehensive name as the American Bee-keepers' Association, which would take in the bee-keepers of Canada and Cuba, fixing the price of membership in this association at so much a colony, spring count, each year. Five cents a colony would be a small amount, and might be sufficient to procure the funds necessary to properly carry on the work of such an organization. The first object of such an organization should be to get up a trademark, to be registered in the United States Patent Office. The second, to have printed a large number of labels bearing this trade mark, to be furnished to each member of the association; third, to advertise extensively the fact that the American Bee-keepers' Association is furnishing strictly pure guaranteed honey, at the same price that inferior and injurious syrups can be bought for, reproducing in the advertisement the trade mark of the American Bee-Keepers' Association, so that the public could look for it just as they look for the name "Karo" when they want to buy molasses. This method would give the public confidence in honey, which is at the present time sadly lacking; at least, it is lacking in this market, for almost every person with whom I have talked on the subject of buying extraeted honey, did not want to buy it at the grocery stores because they do not believe that there is any honey in it.

FEAR OF ADULTERATION GREATLY LESSENS THE SALE OF HONEY.

I believe that thousands of people would buy honey who do not now buy it, if they were sure that they were getting real honey and not a mere mixture of glucose and sugar syrup.

The business end of the proposition could only be worked out by having at the head of the organization an energetic business man, who has had experience in extensive advertising, and who has more than the average quantity of brains. Such a man could be found, but he could not be employed at a trifling salary.

ADVERTISING WILL PUT UP THE PRICE

Perhaps the foregoing outline will give you an opportunity to do a little figuring on the possible receipts and expenditures of an organization such as is set forth. I firmly believe that the increased consumption of honey that would result from such a course of advertising, would make it possible for the producers of honey to get a better price for their product than they are getting at the present time. Price is a matter of supply and demand. The object of advertising would be to increase the demand, and I do not at all doubt that the demand would be so largely increased that the price of honey would go up, and the increase would go to the producer.

ALTOONA, Penn. May 21,1904.

Overstocking Varies with the Flow and with the Season.

BY M. A. GILL.

EDITOR REVIEW:—I read with much interest the article from Mr. Alexander upon the question of overstocking. I agree with him in many things, but wish to mention a few points wherein I disagree, and give the reasons why.

BEES GATHER MORE HONEY WHEN PASTURES ARE NEAR BY.

I agree with him and Doolittle that bees do gather honey four miles from home, but insist that they could gather more surplus if they were within one or two miles of the field. Four years ago I had one apiary within half a mile of a large and productive field of cleome, and another apiary four miles away. Both worked on the same field; but, in the fall, the colonies close by had averaged two supers of surplus more per colony than had those that were four miles away.

Overstocking does not show up during a *good* flow, or, perhaps, what might be called an *unusual* secretion, but it is during a light honey-flow, or dearth, that the bad effects of overstocking show up. I believe, with Mr. Alexander, that, during a good flow, the secretion of honey goes on all the time, night and day; and it matters not much *how often* the flowers are visited, the honey is there at all times for the *bees to gather*. But during a poor yield it is different. The bees will lick up the field by ten o'clock and then lie idle the rest of the day, or spend their time trying to rob and pilfer.

SOME EXAMPLES OF OVERSTOCKING.

Three years ago, 1,000 colonies, here at Longmont, that were located on *one square mile*, did as well *during a long, good flow*, as those farther out, but during the next season, which was a very poor one, 600 colonies, on the same field did much less in storing surplus than did apiaries *farther out* and in naturally poorer fields.

I think, with Mr. Alexander, that often more bees can be kept upon a given field than is laid down by the law makers, but Nature, in this, as in all other matters, has certainly placed a *limit*, and I believe that limit is under from 700 to 1,000 colonies, as Mr. Alexander suggests.

In the field in which I am now operating 1,000 colonies, and which is, practically speaking, 10 x 18 miles in size, is located over 5,000 colonies, including my own. My apiaries run from 75 to 150 colonies, in each apiary. Two of my apiaries are located in the center of this field, closely surrounded by other bees, and these apiaries have to be fed, both fall and spring, if the season is not good, while my other apiaries, located on the very outside, or, rim, so to speak, of the field, get some honey even in poor seasons, and are nearly always in good condition.

My average is much above the average for the whole field. In poor seasons I think this is due to my advantage in location, but in good seasons I think it is, perhaps, due to the fact that my bees have better care than the average of the district. I feel certain that some of my apiaries could be be doubled in number, and the results per colony be the same in *good seasons*, but who knows, with any degree of surety, when we are going to have favorable or unfavorable seasons?

DOES NATURE SOMETIMES GIVE A FIELD A "REST" FROM HONEY SECRETION?

Another point I wish to bring out, and one in which I will, no doubt, be derided and criticised, is this, that Nature sometimes *rests* certain fields. Who can say that there is not some element or condition in the soil that assists in the secretion of nectar, that this condition, or element becomes exhausted by continual honey flows, and that Nature rests, so to speak, given fields for a year, occasionally, to allow those conditions to again take place in the soil? I know I have had apiaries that seemed to work almost entirely in a certain direction for a year or two, then, the next season work almost entirely on a field that was neglected the year before.

AS IN MANY THINGS, THE MIDDLE-GROUND IS SAFEST.

On the question of overstocking I will say that I may be found about half way between the big crowd and Mr. Alexander, who seems to be all by himself away out on the frontier; and to a portion of the big crowd I would say, don't be scared if a few more bees come into your field; to the over zealous who would like to fix up a big plant, and operate 1,000 colonies in one apiary, I would say, don't do it. You might succeed in a good field, and during a good season, but, in my opinion, you would meet with disaster during a long dearth of honey.

LONGMONT, Colo., May 27, 1904.

Editorial

THE RURAL BEE-KEEPER improves with each issue.

OPPORTUNITY is seldom lacking so much as the readiness and ability to make the most of it.

ELMORE M. HUNT and wife, of Bell Branch, Michigan, are rejoicing over their first baby—a girl.

A MAN amounts to something just in proportion as he devotes his energies to the welfare of others.

C. THEILMAN, of Minnesota, one of those sturdy, earnest, enthusiastic German bee-keepers, passed away May 30.

THE REVIEW is jealous of no other journal. None of them will ever be as prosperous as the Review wishes they might become.

H. C. MOREHOUSE and Gleanings are to be congratulated, as the former has been engaged by the latter to conduct a Western Department.

DR. C. L. PARKER, a well-known bee-keeper of Syracuse, N. Y. is dead. He was the one with whom Irving Kinyon took his first lessons, as mentioned recently in the Review.

A REPORT of the Illinois State Bee-Keepers' Association, also that of the Northwestern, very neatly printed by Geo. W. York & Co., has come to my desk, for which I express my thanks.

MRS. LUCINDA HARRISON, formerly of Illinois, but later of Florida, has recently passed away. She was one of the pioneers in bee-keeping, and wrote many articles for the bee journals and farm papers.

THE REVIEW does not have for its object that of out-doing, or out-shining other bee journals. The one idea always kept in view is that of helping bee-keepers; and in doing this it stands ready at all times to join hands with any or all of the other journals.

MR. GEO. W. BRODBECK has been compelled to retire from the the presidency of the California National Honey Producers' Association, on account of ill health. He is succeeded by Mr. T. O. Andrews. I hope Mr. Brodbeck will be able to attend the National convention at St. Louis, next September.

AN EVEN TEMPER is an excellent thing to cultivate; not only in regard to angry passions, but all other passions as well. Some men not only allow misfortune to rob them of hope and cheerfulness, but a little success fairly takes them off their feet. We should never be unduly cast down, nor unduly elated.

"ALL THINGS come to him who waits," is an old saying with which I never felt entirely satisfied. It is all right to wait if necessary, but there must be something more. Here is the way that Thos. A. Edison puts it, and it adds the one thing needful. He says "All things come to him who hustles while he waits."

STAPLES are something of which I drove about a peck into my frames when I first began bee-keeping. I did this because everybody was talking staples. I have been pulling them out ever since, and they are for sale cheap. We buy too many of these traps that we would be better without. Keep on telling us what *not* to do—there has been too much telling us what *to* do.—C. CRANK, Mio, Mich.

THE WESTERN BEE JOURNAL is the name of the new journal formed from the union of the Pacific States and Rocky Mountain bee journals. It is a monthly at $1.00 a year. It is clubbed with the Review at $1.75 for both journals.

CLEANING SECTIONS can be very easily and quickly accomplished by rubbing them over a piece of coarse-mesh wire cloth stretched over a stout wooden frame, provided the propolis is not down in a "bee-way" where the wire can not reach it. Plain sections can be very easily cleaned in this way.

Mr. C. A. Olmstead described this plan last winter at one of the bee conventions that I attended in York State.

BICYCLES have been recommended as a means of reaching out-apiaries, but here is something that I found penciled upon the back of a sheet of manuscript: "When a man goes to an out-apiary on a bicycle, he has done a day's work before he gets there." Any bee-keeper in the business very extensively needs a horse for many purposes, and it is doubtful if, all things considered, there is a more desirable method of going to out-apiaries than with a horse.

MR. M. A. GILL has, in this issue of the Review, placed the question of over-stocking in the clearest possible light, viz., that there are occasional flows of honey when it is well-nigh impossible to overstock the field, but in ordinary seasons, or light flows, it is an easy matter. As I have said before, each man must judge for himself; and, after years of experience and observation, about all of the satisfaction that he will get will be that of thinking that he knows *somewhere near* how many colonies it is profitable to keep in certain locations.

SCHOOLS of Correspondence are now teaching almost everything, in fact, I have often wondered that some one did not start a correspondence school for teaching bee-keeping, and now I see by an advertisement in the last issue of the Youth's Companion, that no less a firm than our old friends, the Roots, of Medina, Ohio, have done this very thing. I believe that no person or firm in this country is better fitted than they for making a success of such a venture, and I shall watch the outcome with much interest.

TESTING QUEENS.

Too many of us are too hasty in deciding about the value of a queen. As soon as we find that she produces three-banded bees, we call her "tested." She is tested only in regard to purity of stock, and there are several other important points. Mr. Evan E. Edwards tells in Gleanings how he tests a queen before using her as a breeder. During the first season he gets a *partial* test as to prolificness, also as to gentleness, size and industry of the workers. The following winter will test as to hardiness and longevity; but the real test, the one that settles the question, is the succeeding harvest. If the queen and her progeny equal or outstrip the stock he already has, then, and not until then, does he breed from the strange stock. As a rule, he carries the test even farther by rearing a granddaughter or two, to guard against "back" breeding; as it sometimes happens that while the daughter may be the very best, the granddaughters develop undesirable traits. When a queen has been through this ordeal, she is then "tested."

THE NATIONAL Bee-Keepers' Association will hold its annual convention next September, in St. Louis, Missouri, and the following notice has recently come to hand from its Secretary.

LOS ANGELES, CALIF., June 18, 1904.

EDITOR BEE KEEPERS' REVIEW.—

Dear Sir:—The annual session of the National Bee-Keepers' Association for 1904 will be held in September, at St. Louis, Mo.

September 27 and 28 will be devoted to Association work and its interests.

September 29, International Day. We expect many prominent foreign bee-keepers to be present on this day.

September 30th, Inspectors' Day, Twenty bee-inspectors from all over the United States and Canada are counted on to introduce and discuss "The Diseases of Bees," etc.

Mr. N. E. France will exhibit, in the convention Hall, a large map of the United States, Canada, Cuba and Europe. Each State and Country will have a shelf attached to the map with a one-pound sample of each kind of honey produced. Many other exhibits of special interest will be shown.

We expect to see the largest gathering of bee-keepers ever held in this country. A more detailed program will appear later.

Respectfully,

GEO. W. BRODBECK, Sec.

ANOTHER CASE WON BY THE NATIONAL

Last fall the village of Central Lake, Michigan, passed an ordinance prohibiting the keeping of bees inside its corporate limits. Mr. Henry A. Doty kept nearly 100 colonies of bees inside the limits of the village, and it is quite likely that they may have been, sometimes, an annoyance to some of his neighbors, but it was greatly exaggerated by circumstances having no connection with bee-keeping.

This summer Mr. Doty was arrested on a charge of violating the ordinance. An attorney was employed and copies of decisions in similar cases furnished him and the justice who was to try the

case. Under instructions from the General Manager, I was present at the suit to represent the National Association. After listening to the arguments of counsel, the justice said, "If this case ever goes to a higher court, I am satisfied that the ordinance will not stand fifteen minutes, and I shall so decide."

The question as to whether Mr. Doty's bees were a nuisance was not touched upon; the decision resting solely upon the constitutionality of the ordinance.

The attorney employed by the Association was the best that could be secured in the county; and the manner in which he conducted matters showed me the wisdom of securing the services of the best possible counsel when going to law; he is half the battle—sometimes pretty nearly "the whole thing."

"TALKING BEES" TO SCHOOL CHILDREN.

Mr. O. L. Hershiser has been "talking bees" to the school children of Buffalo. As there are about 3,500 of the seventh grade, which is the grade to which he spoke, and only about 300 could listen at one time, his labors extended over two weeks. A series of stereopticon views was used to illustrate the lectures, and so rapt was the attention that a pin could have been heard to fall at any time. Gleanings, from which I gather the foregoing, proposes to make sets of slides that will be sold at a nominal price, or rented, and suggests that this laudable movement begun in Buffalo be taken up in other cities. It well says that: "The greatest difficulty with which we now have to contend, is ignorance as to the character and quality of our product. Over half of the people suppose that comb honey is manufactured, and a large part of the other believe that liquid honey is largely glucosed. The public needs to be enlightened, and the quickest way to do it is through the children. Get a child all fired up with enthusiasm, and he will tell his papa and mama what wonderful things he has heard. Then he will want some pure honey, and his parents will have to get some, of course."

A FINE PICTURE OF CALIFORNIA BEE-KEEPING.

Good Housekeeping for June has a most excellent and beautiful, as well as graphic, pen- and camera-picture of California bee-keeping; and it is furnished by no other than Flora McIntyre, the eldest daughter of our old friend, J. F. McIntyre. For one so young, and with so little experience in writing for the press, it is a remarkable piece of work. She seems to have known exactly what to leave out, as well as what to tell, to make it of interest to the general public. Many old writers have handled their subject less skillfully. The closing paragraphs border closely upon the romantic or poetical, and are a decidedly clever piece of work. It is to be hoped that Miss McIntyre will continue to use and improve her talent, for talent she certainly has in this direction.

ADVANTAGES OF LATE-REARED QUEENS.

So many times there comes to the bee journal editor the query: "When is the best time to buy and introduce queens?" Many seem to have an idea that the spring is the best time to do this work. Unless there was some special reason for doing otherwise, I should always buy and introduce queens in the fall. In the first place, queens are scarce in the spring and prices are high. Next, if there is a failure to introduce, and the bees get the brood nest overloaded with honey, and there is a break in brood rearing

for a week or ten days, the colony is practically useless for the clover honey harvest. Again, early in the season, unless it is *very* early, the colony is populous, combs full of brood, and everything is booming. The bee-keeper is busy, or ought to be, and it is not "good business" to be tearing up, and disturbing, and throwing out of equilibrium, a colony just on the eve of a honey harvest.

Queens reared after the honey season is over are every whit as good as any queens, if the breeder understands his business, and attends to it. It is just possible that they may be less inclined to swarm. The hurry of the season is over, and the bee-keeper has more time to attend to the business of introducing queens. If there is a failure to introduce, there will be no consequent loss of a honey crop. Still further, the queen that is introduced, being a young queen, will lay later in the season than will an old queen, and, as a result, the colony will go into winter with a larger proportion of young bees. And now for the last and best point: The queen will be young and vigorous the next spring, and will push her colony ahead in a way that is seldom seen with an old queen.

If you have never tried it, do it this fall. Introduce some really good, young queens that have just begun to lay, and see how the colonies will winter, come through the spring, and boom ahead of all others.

THE ARTIFICIAL COMB HONEY CANARD STILL DOING ITS DEADLY WORK.

It is doubtful if one man ever worked more damage to the bee-keeping industry than did Prof. Wiley when he committed his "scientific pleasantry," years ago in the Popular Science Monthly. Of course, there was a tardy and reluctant correction, but truth never seems to be able to travel fast enough to overtake falsehood. Being of a sensational nature, and coming from a supposedly reliable source, the United States chemist, it was copied far and wide, and *believed*. Many times was it repeated, but few, if any, were the papers that published a correction. Even now, a correction is secured only after all possible pressure is brought to bear upon them.

In this connection, it affords me pleasure to say that Prof. Wiley deeply regrets his indulgence in this "scientific pleasantry," and is really a friend to bee-keepers, and doing all that he can for their benefit, but this does not undo the mischief he has done; in fact, Ernest Root writes me that nine-tenths of the general public believe that comb honey can be, and is, made artificially; and, if it were not for this belief, comb honey would sell for a much higher price. We bee-keepers must go outside of our own class to realize this. For instance, commercial travellers have a most excellent opportunity to know the general belief of the public, and Ernest Root writes me that it is wonderful to know the number of these men who visit Medina and are surprised to know that there is no such thing as artificial comb honey. When asked if they don't eat honey, say they don't care to eat manufactured comb filled with glucose.

I recently mentioned in the Review that this old story of manufactured comb honey had appeared in that usually reliable paper, the Ladies' Home Journal, and urged my readers to write to its editor and ask him to correct it. I also wrote to him myself. The editors of the other journals pursued a similar course, and we now have assurances that a correction will appear as soon as it is possible to make it, which may not be until October, as the great circulation of the Journal necessitates the preparation and printing of the paper a long time in advance of the date of its appearance.

There is also another case, that of Prof. L. B. Allyn, Instructor in Organic Chemistry at the State Normal School, Westfield, Mass. He has recently had an article in the Springfield Republican, of Springfield, Mass., in which he says that "Honey bought in the open market, and retailing at from 20 to 25 cents per pound, was found to contain glucose, flavored with formic acid. The comb of paraffin wax was made by machinery."

When Mr. A. I. Root sent in a letter of protest, it was published, but the Professor stoutly maintained his position, saying that he had in his possession a small quantity of the original sample that he would submit to any reliable chemist. The remainder of the sample was on exhibition at St. Louis, with other illustrations of work done at that laboratory. It is quite likely that this sample at St. Louis is placarded as "artificial comb honey" and it is where it will be seen and commented upon by thousands and thousands; and, coming from this source, it will be looked upon as reliable.

This same Professor has an article in the June issue of Good House-Keeping, in which he says that one of the principal uses of glucose is that of "feeding bees."

Prof. Allyn is undoubtedly a good chemist, but when he goes outside of his realm, and writes as facts, what is simply hearsay, he is, in this case, doing untold damage to our industry. I wrote to him, and went carefully over the case, calling his attention to the fact, which he had evidently overlooked, that Prof. Wiley had corrected his "scientific pleasantry," and asked him to send what he had left of his "machine-made" product to Mr. Selser, of Philadelphia, who is a practical bee-keeper, a chemist, aud a dealer in honey. I received a good letter from the Professor saying that if he could be convinced that he was mistaken he would gladly make the necessary correction, and that he would send to Mr. Selser what he had left of the suspected sample of comb honey. He also thanked me for the fair and courteous manner in which I had addressed him, which he said was in pleasing contrast with some of the letters he had received.

I mention this because I wish to emphasize the importance of being exceedingly courteous and fair when writing to persons who have been misled into uttering this old canard. We must bear in mind that they were probably sincere when they wrote or published it, and that there is a certain humiliation in admitting that they "didn't know what they were talking about." For this reason, the matter should be taken up with the utmost tact and diplomacy. Think how *you* would feel if you were in the other fellow's place; how thankful you would be to the man who, while pointing out your error in the kindest way imaginable, and explaining and proving his position most clearly, did not forget to excuse you for making the error, and, at the same time showed you how to make a correction with the least humiliation to yourself. Above all things, don't be abusive; don't bluster; don't threaten. It may become necessary at a later stage to say that the National Association may find it necessary to use its money and influence if certain things are not done, but don't use this until it is necessary. Remember this, if you wish to convert a man to your way of thinking, don't arouse his combativeness.

EXPERT ADVICE.

I doubt if it is generally known that there are men who go about the country giving expert advice to business men, merchants, manufacturers, and the like. Perhaps these men might be called "systematizers." A manufacturer, for instance, finds that his busi-

ness is not paying him, or not proving as profitable as it ought. He has a good plant, is doing a good volume of business, yet there a "screw loose" somewhere, and he is unable to find it. He finally sends for an expert. When he comes, everything is thrown open to him. Nothing is kept back. To conceal anything would be like deceiving your physician. He spends several days examining the business in all of its details. He learns how, and where, and for how much, and in what quantities, the raw materials are purchased. Then the process of manufacture is followed carefully through all the details. Particular attention is paid to the system employed, or the *lack* of system, to the book-keeping, etc. Then comes the selling, the methods employed, the advertising, etc. The employees may not know that there is an expert among them. He may work as an apprentice in the different departments, and thus get a true view of things, and not as they would be performed if it were known that some one was watching. The leak is often found where least suspected—sometimes there are several leaks. It is well-nigh impossible to see ourselves, or our business, as seen by others. How many times have I seen some man making a mistake in business. I knew it was a mistake, just as well as I could know anything of which I could not be absolutely certain, but it was none of my business to tell him so, and he would have been offended had I done so. On the other hand, I have often wished that an expert in my line of business could come in and "look me over," and tell me where *I* was making mistakes.

These experts, working continually in this line of work, become really and truly experts in detecting the weak spots in a business. The wages that they command are something fabulous, but many a man who has employed an expert "systematizer," has found it money well-spent. Sometimes it is necessary to wholly re-organize the business, so to speak, to introduce a different system, or to make radical changes, and, again, the trouble may arise from some simple matter easily remedied, but not suspected.

In my travels about the country I often come across apiaries that are in need of expert advice, of a "systematizer." In some instances, I could very easily and quickly tell the owner where he was making a mistake; in others it might require much examination and study to locate the trouble; and it is quite likely that there might be cases beyond my ken. There are hundreds of bee-keepers all over this country who are not successful in the highest and truest sense. Their lack of success comes from poor management. I don't mean deficient or improper manipulation, as most bee-keepers understand that part of their business better than anything else, but in not taking the proper advantage of their advantages. What is needed is some radical change. It may be one of many things. I have seen some instances in which the best possible thing a man could do would be to *drop* bee-keeping. He was not adapted to it, and it seriously interfered with some other business to which he *was* adapted. There are localities in which successful, financial bee-keeping is practically impossible, and it is a waste of time to attempt it. Many might make a success of bee-keeping if they would keep enough bees. This is a point that I have urged so persistently that I fear some have tired of hearing it, but it is a vital point most sadly neglected. In order to keep more bees, it may be necessary to adopt different methods requiring less labor or "fussing." A man may be trying to do all of the work himself in the busy season when he needs help—when he should be doing the overseeing, and others the work. If a

man loses his bees winters he can never hope for any great success, and a radical change may be needed in his plan of wintering. A man may be a good bee-keeper, yet his method of disposing of his crop be such that no manufacturing plant could ever survive if it followed such slipshod, unbusiness-like methods in disposing of its output. It is impossible to point out the numerous ways in which a man may fail in reaching the highest success as a bee-keeper; and the unfortunate part is that he does not realize, himself, the cause of his failure. I have often thought that it might sometimes be possible for me to help my readers in thus pointing out the needed changes for turning failure, or indifferent success, into abundant success, In doing this I should make no claim as to superior natural abilities, or "smartness," simply that my past life has fitted me in that direction. My whole life has been devoted to bee-keeping. I began its study while yet in my teens. For years I made my living from the apiary; I have produced both comb and extracted honey; reared and sold thousands of queens; attended and made exhibitions at fairs, year after year; attended numerous conventions where I have met the most successful bee-keepers of the country; and, above all, I have visited hundreds of bee-keepers, in their homes, from Vermont to California, carefully studying *why* they have succeeded and why they have *failed.* During all of these years I have carefully read nearly everything that has been published in this country on the subject of bee-keeping; and, for 17 years, as editor of the Review, I have enjoyed the confidence of thousands of bee-keepers who have favored me with reports and descriptions of their failures and successes. Successful bee-keeping is about half bees, and the other half business, and the latter half has been almost entirely neglected. For this reason I have been giving much attention of late to the business features of bee-keeping. For these reasons I might be able to visit a bee-keeper, the same as an expert visits a merchant or a manufacturer, and be able to say, at the end of my visit, "Mr. Blank, if you would do thus and so, make such and such changes, you might make dollars where you now make dimes." I think it is possible that I might be able to thus advise a man without ever seeing him or his apiary, provided he would write me a complete and minute history of his case. If there is any reader of the Review who feels that he is not making the success of bee-keeping that he might make, who is having a hard time "to make both ends meet," and feels that possibly I might help him if I knew all of the circumstances, let him write me those circumstances in the fullest possible manner, and he shall have the best advice that I can possibly give him. He must, if he expects me to help him, tell me everything that can possibly have a bearing on his success, just as the manufacturer opens up his factory to the expert. Of course, everything would be held in the strictest confidence, not shown to others, or published—at least, not without the full and free consent of the writer.

First, I should wish to know about the man himself; his age, disposition, education, knowledge and experience with bees, the books and papers he had read, etc. Then his resources, cash, farm or home, bees or what not. Next I should wish to know all about the location and its peculiarities, the honey-flows, the number of bees kept by the writer, and others in that vicinity, the yields, the manner of wintering, and the success in that line. I would like to know the kind of bees kept, the kind of hives and implements used and the methods employed. I would like to know the kind of honey produced,

how prepared for market, how marketed, and the prices secured. This is simply an outline of what I would like to know; in fact, a man could not tell me too much. Especially, would I like to have him tell me what *he* thinks is the greatest drawback to his success. After I get such a letter, or history, from a man, I might wish to write to him and ask him a lot of questions; in fact, there might several letters pass between us before I would feel justified in giving an opinion in the matter.

What will be charged for such services? There will be no charge. I expect that the rest of my life will be devoted to helping bee-keepers, and each man that I can in this manner assist to greater success, will enable me to do still better work in this line for others needing similar assistance, and, at the same time, will better fit me for my duties as editor of the Review.

EXTRACTED DEPARTMENT.

A NATIONAL TRADE MARK.

Let an Inspector in Each Large City Examine the Honey of Members as It Comes in, and Affix the Seal of the Association if it is Deserved.

For years there has been talk of a National Trade Mark, to be used only by members of the National Association. Each member was to be supplied with copies of this trade mark which he could affix to his packages of honey as he sent them to market. This trade mark was to be widely advertised and made known to the public, and was to stand for an emblem of purity and excellence. There has been, and is yet, one great obstacle to the adoption of this plan, and that is, unfortunately, that joining the National Association does not prevent a man from putting poor honey upon the market. Only a dealer knows of the thin, unripe, detestable stuff that is sometimes put upon the market, even by members of the National Association. I think that the practice of putting such honey on the market is on the decline, but there is still enough of it to bring disgrace to any trade mark under which it might sail. There is one way, and only one way, in which the National can ever afford to place its brand upon honey, and that is when a competent officer has first examined it, and found it worthy. On this point, Gleanings publishes some excellent suggestions, and it is possible that something may yet be done in that line. Here is what it says:

"The suggestion has been continually coming to me of late whether or not the National Bee-Keepers' Association, in view of the widespread distrust of all comb honey and a large part of the extracted, could not in some way place its own brand of purity on honey produced by its members, so that the public and the large buyers would *know* that such honey was necessarily pure.

One of the York State local county societies did for a few years (I do not know whether it does now or not,) brand all the honey put out by its members, guaranteeing its quality and purity. It strikes me that the National might and ought to do something of this kind. If a large part of the general public believes that comb honey is manufactured, and if it can be satisfied that a certain brand of honey is pure, it would purchase without hesitation.

It would not be very expensive for the National to have a local inspector for each large city, and have him look over each large lot of honey, inspect the shipping and way bills, and look over the correspondence to make sure that the honey was produced, put up, and shipped by some known responsible bee-keepers' society or individual mem-

ber. I would assess the cost of this inspection of the honey on the producer or the buyer of it who desires to have the brand of purity and quality of the National affixed to it. I would also have the inspector appointed by the Board of Directors and the Executive Committee jointly, they to examine the recommendations as to his fitness that have been received, and to apportion out the salary, such salary to be in proportion to the amount of honey examined, and in the end to be paid by the honey-producer, the buyer or commission man who desires the National to guarantee the quality and purity of the honey. If necessary, doubtful samples of extracted can be analyzed, and, if pure, the certificate or brand of purity attached. And, by the way, we already have a chemist on the Board of Directors who is competent to make such analysis at a nominal price. (Just here I ought to say that Mr. Selser has never broached this subject to me in any way, shape or manner.)

This same inspector might also attach his official grading on the various shipments that come in, and thus avoid a lot of trouble between producer and buyer. To have some expert grade as well as certify the purity of every lot of honey coming into Chicago would be worth much.

Perhaps this idea is too utopian to be carried into effect; but I have briefly outlined in a crude form the thoughts that have been revolving in my mind, and should be glad to hear from any one with suggestions. If a *practical* scheme can be evolved, I am satisfied that much good will be accomplished, and the officers of the National will be glad to adopt it.

FEEDING BACK EXTRACTED HONEY.

Some Excellent Directions for Making a Success of the Business.

There is a sort of fascination about feeding back extracted honey to have it turned into comb honey. I doubt if there have been very many pounds of comb honey profitably produced "right from the stump," as Mr. Heddon used to say, by the feeding of extracted honey, but with hot weather, black bees, or those with a dash of black blood in their makeup, unfinished sections may be completed at a profit if the work is rightly managed. Feeding back is distinctly a separate branch of apiculture, as much so as commercial queen rearing. There are many things about it that can be learned only by experience, but much can be learned by reading the experience of others. Some very good hints along this line were given last fall in Gleanings by Mr. M. W. Shepard, of Hollister, Florida. Among other things Mr. Shepard says:—

The question of feeding back extracted honey for the production of comb honey does not appear to settle any more than several other questions of more or less importance to the bee-keeping fraternity do. Opinions and theories differ in regard to the matter, and many of the shining lights of bee-dom say it can't be done. After an experience covering several seasons, and having had my efforts crowned with success, it may not be out of place for me to say it *can* be done, and done easily, and at a good profit, and especially feeding back to finish unfinished sections. We usually have several thousand such sections at the end of the main honey-flow, and in this climate it is well nigh impossible to keep combs of any kind off the hives on account of the worms; so it is policy as well as profit that led us to try the feeding-back plan.

We first assort our unfinished sections, get our supers ready, and then begin by filling our supers, putting the fullest ones in the corners and outside rows; but be sure to uncap all sealed cells. If *you* don't the bees won't, but will build new comb on top of the sealed cells, making what we call double-deck combs. After you fill your supers, put not less than two on any good strong colony whose brood chamber is well filled with sealed brood and honey. For feeders we use a box made of thin lumber, and which will hold a gallon or a little more. Set this box *on top* of the supers, fill it with thick honey, throw a handful of coarse excelsior on top of the honey; then cover the whole up bee-tight.

You will find that the bees will store about all of the first feederful below, not making much of a show in

the sections; but be sure to keep honey in the feeders day and night until the sections are nearly as full as they should be; then taper off rapidly with the feed, and the bees will seal the combs, and you will find them as smooth and perfect as if built under normal conditions. Take these supers off and replace with empty ones, and you will get them filled; but I would advise you not to use the same colony for more than two lots, for on the third lot they seem to think they have done enough, and will not take the honey.

Now, this is all about finishing unfinished sections, but the same plan holds good if you use sections filled with foundation instead of partly finished sections. I do not claim that the foregoing is a universal plan that will work everywhere and under all conditions, whether the conditions are known or not, but I will say that it works with us on a large scale, and we are satisfied.

Now, does it pay to feed for the purpose of filling out unfinished sections? Yes, it pays *us* to do so. Will it pay to feed back for the purpose of producing comb honey from full sheets of foundation in the sections? Yes, if extracted honey is not worth more than 5 cents per pound, and comb honey is not worth less than 12 cents. We wish to say, first, know what you are going to try to do, then go ahead. If you don't want a puttering job, don't try feeding back, and *don't* try to be a lightning operator at the job, or possibly the lightning may strike you.

The point that Mr. Shepard mentions about uncapping any sealed honey, needs, I think, a little more explanation. If the combs are so arranged or placed that the spaces between them vary only slightly from a "bee-space," there is no need of uncapping the sealed cells, but if the spaces are much wider than a "bee-space," the bees, especially if crowded for room, and fed abundantly, will build comb right on top of the capped surface, giving the honey a decidedly patched and blotched appearance.

Our $10,000 Bee-Keepers' Supply Manufacturing plant is ready for business. Send for price list.
MONDENG MF'G. Co., Minneapolis, Minn.
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100 Swarms for Sale

In a fine basswood and clover location; bees in fine chaff hives with five inches of packing; and there are fixtures for producing both comb and extracted honey. Address 6-04-tf

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VIRGINIA QUEENS.

Italian Queens, secured by years of selection from a cross between Red Clover strains and the Superior Stock furnished by W. Z. Hutchinson. No better bees are to be had anywhere.

Untested queens, large, vigorous and prolific, only 75 cts. After June 15th, only 65 cts. Tested queens, $1.00; after June 15th., 75 cts.

Write for discounts on large orders.

CHAS. KOEPPEN,
Fredericksburg, Virginia.
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W. M. Cockersham, of Ronda, N. C.
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Queens for Sale

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	Apr.	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

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QUEENS?

If so I can furnish you queens of the following races by return mail:

Three- and five-banded Italians, Cyprians, Holy Lands, Carniolans and Albinos.

Untested, of either race, 75c each; Select, Untested, $1.00 each; six for $4.00; twelve for $8.00; tested, of either race, $2.00 each; six for $10.00; one dozen, $18.00; Breeders, $4.50 each. Safe arrival guaranteed.

B. H. STANLEY,
7-04-tf Beeville, Texas.

IN ALL THE WEST

There is only one Bee Journal. It is the Journal that is published where men "do things" when it comes to keeping bees and producing honey. The West leads the world in the production of honey. It is natural, then, that a Bee Journal published in such a place is the one you should read if you wish to keep "posted". The Pacific States Bee Journal of Tulare, Calif., and the Rocky Mountain Bee Journal of Boulder, Colo., have been consolidated, and will now be published under a new name—the

Western Bee Journal

"Not Like any Other."

P. F. ADELSBACH, Editor
and Publisher,
HANFORD, CALIF.

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Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

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Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

STOCK DIFFERS

There is a difference in bees in regard to their disposition, industry, and various other traits. Every bee-keeper, especially if he has different strains of bees, will notice here and there a colony far out-stripping the general average—if the whole apiary came up to these, how the crop would be increased. Send to J. P. Moore, Morgan, Ky. and get the neatest circular ever sent out by a queen breeder, and read the testimony of experienced bee-keepers who have tried his stock side by side with that of others.

J. P. MOORE,
Morgan, Kentucky.

Free Trips California and the Southwest

"The Earth" is a new monthly journal, describing life in the Great Southwest.

It is the best of its class. It contains timely articles of interest to those who wish to get a home or establish a business in the most prosperous section of our country. It is attractively illustrated with pictures "that talk." It is bright, truthful, instructive and persuasive.

Like all new publications, "The Earth" wishes to increase its circulation, and offers the following very attractive prizes to persons getting up clubs. The only condition is that you become a subscriber yourself.

LIST OF PRIZES

First Prize—To the person sending the largest list of paid subscribers, a free round-trip ticket, Chicago to Los Angeles or San Francisco.

Second Prize—For the second largest list, a free round-trip ticket, Chicago to Grand Canyon of Arizona.

Third Prize—For the third largest list, a free round-trip ticket, Chicago to Phoenix, Ariz.

Fourth Prize—For the fourth largest list, a free round-trip ticket, Chicago to El Paso, Texas.

Fifth Prize—For the fifth largest list, a free round-trip ticket, Chicago to Galveston, Texas.

Sixth Prize—For the sixth largest list, a free round-trip ticket, Chicago to Denver, Colo.

Seventh Prize—For the seventh largest list, a free round-trip ticket, Chicago to Carlsbad, N. M.

Eighth Prize—For the eighth largest list, a free round-trip ticket, Chicago to Oklahoma City, Oklahoma.

Ninth Prize—For the ninth largest list, a free round-trip ticket, Chicago to Garden City, Kan.

Tenth Prize—For the tenth largest list, a free round-trip ticket, Chicago to Kansas City, Mo.

Eleventh to Fifteenth Prizes—For the eleventh, twelfth, thirteenth, fourteenth and fifteenth largest lists, 500 miles of railroad transportation.

All of the above transportation good over such road as we designate, and available for use until June 30, 1905. Tickets to be non-transferable and used only by the prize-winners.

If any winners of prizes one to ten, inclusive, should prefer a different trip than the one offered, an equivalent number of miles will be issued. Lists to be closed December 31, 1904.

Let us register your name as entering the competition. Send for sample copies to canvass with. The work should be easy. The price of a yearly subscription to "The Earth" is only 25 cents. No trouble to get a large list at that price by a few hours' work each week among your neighbors. No minimum requirement as to the number of subscribers you get. The prizes will be paid regardless of results.

Write To-Day to The Earth,
1118 Railway Exchange, Chicago.

Cut out and mail this coupon.

THE EARTH,
1118 Railway Exchange, Chicago:

Enclosed find 25 cents for one year's subscription to "The Earth."

Please enter my name in your Prize Subscription Contest, sending me necessary blanks.

Name .....

Street No. .....

City and State .....

HIGH GRADE of Italian Queens at living prices. Write for price list.
J. F. Michael, Winchester, Ind.

CHUNK COMB honey wanted. Give particulars as to quantity, price, package, time you ship. E. A. HEARN, Salisbury, Md.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04-tf

J. B. Case, Port Orange, Fla.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

Dovetailed Beehives

$1.00 in flat for 1½ story for comb honey, no sections or separators. Send for prices of supplies for the apiary.

Wood-Brush Bee-Hive & Box Co.

12-03-tf LANSING, MICH.

Fine Italians Queens, address A. D. D. Wood, Lansing, Mich.

Page & Lyon Mfg. Company New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

PERFECT GOODS!

LOW PRICES!

A Customer Once, A Customer Always.

We manufacture BEE SUPPLIES of all kinds, (been at it over 20 years). It is always best to buy of the makers. New illustrated catalog free. For nearly 14 years we have published The American Beekeeper, (monthly, 50 cents a year), the best magazine for beginners. Edited by one of the most experienced bee keepers in America. Sample copy free.

The W. T. Falconer Manf'g Co.

JAMESTOWN, NEW YORK

Wm. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save freight.

HIVES AT 1-3 OFF

Before the re-construction of the management of the old firm; the Minn. Bee-Keepers' Supply Co. manufactured a lot of shallow, story-and-a-half hives . . . We don't want them. They're going to be a snap for some one.

One story, in lots of five, each, 90 cts.
Story-and-a-half, in lots of five, each, $1.22.

They're just a regular hive—except they're shallow—7½ inches deep instead of 9½. Dovetailed, tin-jointed covers, reversible bottoms, and 8 frames. There isn't a thing wrong with them—if there was, we wouldn't put them on the market to give away as premiums.

In this ad we've told all there is to tell about them—unless it might be that it's only two years since they were made. They're simply taking up valuable room—a commodity that is worth a lot of money to us. Better order right away—to day—your neighbor may tomorrow—and they'll only last till they're gone.

Minnesota Bee-Keepers' Supply Company

Minneapolis, Minn.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

ITALIAN QUEENS

Either Golden or Honey-Queens after July 1.

Our GOLDENS will come up with any other Golden strain. Our HONEY-QUEENS are what some breeders call "Red Clover Queens."

	1	*6*	*12*
Untested	$ .75	$ 4.00	$ 7.00
Tested	1.25	7.00	13.00
Breeders	5.00	....	....
2 frame Nuclei(no queen)	2.00	11.50	22.00

When Queens are wanted with Nuclei add price of any Queen wanted. We guarantee safe arrival of all Queens and Nuclei. Our Breeders may be returned after 30 days if satisfaction is not given. Cash must come with orders. Orders are booked and filled in rotation.

Mr. Gus Picaman, of Litchfield, Ill., in aletter of Aug. 3, 1903, says: "Send me two untested honey queens. The one I bought of you two years ago is all right. There are no better."

Mr. Frank D. Gonderson, of Oconomowoc, Wis. says in a letter dated Aug. 1, 1903: "I like your queens the best of any that I have ever had." This man placed an order last August for 24 Nuclei to be delivered this spring.

Address all orders to

D. J. BLOCHER, Pearl City, Ill.

6-'04-tf

BEE SUPPLIES CHEAP.

There are reasons for it, and they will be given if you will write for them; and with them will be sent a copy of the new journal, the

RURAL BEE-KEEPER.

Address

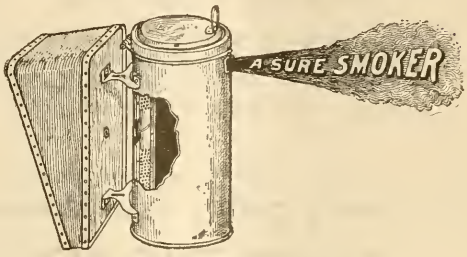
W. H. Putnam,
River Falls, Wis.

6-04-tf

DANZENBAKER

20th Century

SMOKER



A SMOKER SURE FOR $1.00.

Guaranteed to Suit, or Dollar Back.

The last in the field, combines the best features of others, with special ones all its own.

It has a perforated draft-grate at the side that strengthens the fire-cup and holds a removable lining and packing in place, that keeps the fire-cup cool, thus adding to its durability. This lining can be replaced at small cost.

The draft-hole is midway of the fire-cup, directly opposite of the only opening in the bellows, from which the air is forced and deflected upward or downward, or both ways, as desired, to secure a dense or hot or cool volume of smoke, which is determined by the filling and lighting of the fuel.

It is superior in make-up and material.

It has no parts that can clog with soot.

It will continue to smoke from three to ten hours, in light work, until all the fuel is burned.

It wins friends who willingly recommend it to others.

Full directions for use, and preparing special fuel for subduing bees and destroying the eggs and larvæ of the wax-moth, with each smoker.

PRICES:

$1.00 each; three for $2.70 when sent with other goods. By mail, each 25 cents extra.

ADDRESS

F. DANZENBAKER

Care The A. I. Root Co. Sec. 1, Horticulture Bld.

St. Louis, Missouri.

For ROOT'S GOODS in

MICHIGAN

M. H. HUNT & SON

Send for Catalog Bell Branch, Mich.

Root's Goods at Root's Prices.

Choice White Wyandotes and Barred Rocks. Best strain Italian queens. Send for circular. J. F. MICHAEL,
1-04-tf R F D 1. Winchester, Ind.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

STANDARD BRED QUEENS.

BUCKEYE STRAIN RED CLOVER.
GOLDEN ITALIANS. CARNIOLANS.

By Return Mail. Safe Arrival Guaranteed.

PRICES.	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00
Select Breeders, each			$3.00
Two-frame Nucleus and nice Queen			3.00

THE FRED W. MUTH CO.,
No. 51 WALNUT ST., CINCINNATI, OHIO

Shipping Cases

No-drip, 24lb, $13.00; 12lb, $8.00; 20lb, Danz. size or for 4 x 5 sections, $10.00. The $1.00, 1½ story, 8-frame Hives still goes like hot cakes. Sections, Foundation and all kinds of Bee Supplies on hand. Send for list

W. D. SOPER,
R. D. 3 Jackson, Mich.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. They work on red clover as well as on white clover- Untested, 70c each, two for 1.25, or $7.00 a dozen; tested, $1.00, or $10.00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular. G. RONTZAHN,
4-04-6t Biglerville, Penn.

Please mention the Review.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

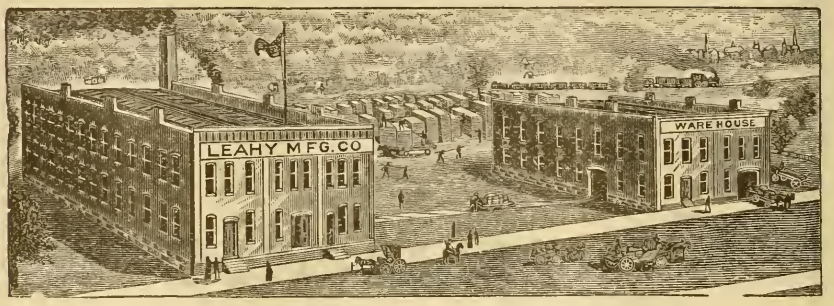
Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—Honey stock is well cleaned up, and demand good. Beeswax in good demand. We quote as follows:—No.1 white, $2 50 a case; No.1 amber, $2.25 a case; White extracted, 6½c; amber, 6c; beeswax, 30c.

WALKER-BREWSTER GROCER CO.,

May 3 423 Walnut St. Kansas City, Mo

CINCINNATI—The demand for honey is brighter than it has been in the past sixty days. We continue to offer Amber Extracted in barrels at 5½ to 6½ cts, according to quality. White Clover Extracted is a drag on the market at 6½c to 8 c in barrels and cans. Comb honey seems to be reviving at 13½c to 15c for fancy. Beeswax is wanted by us at 30c per lb delivered here.

THE FRED W. MUTH CO.

March 29 Cincinnati, Ohio.

BUFFALO —No sale at all for old honey, and new honey would not sell very quickly. Too early; in September can place it well. New Honey—Fancy White, 14c to 15c; No. 1 White, 12c to 13c; Fancy Amber, 10c to 11c.

BATTERSON & CO.

July 5 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—The season for selling honey has been prolonged on account of the cold weather which has certainly been very fortunate for the bee-keeper, as there never was as much honey shipped in so late in the season to be disposed of. It has broken the price quite considerably, but there is still quite a demand, which otherwise would have fallen off. We quote as follows:—Fancy white comb, 13 to 14c; No. 1, 12c; amber and buckwheat, 9 to 10 ; Extracted buckwheat, 7 to 8c; amber, 6 to 7c; beeswax 31c and in good demand We are producers of honey and do not handle on commission.

WM. A. SELSER.

March 30 10 Vine St. Philadelphia, Pa.

CHICAGO—The market is heavily supplied with comb and extracted, neither of which are meeting with any demand; especially is this true of the comb honey. Prices are uncertain, as those having stock are anxious to sell it; therefore, it is difficult to quote prices. The best grades of white comb bring 11 to 12c, anything off, from choice to fancy, is not wanted. Extracted white, according to quality, sells at 6 to 7c; amber, 5 to 6c; beeswax 30 to 32c.

R. A. BURNETT & Co.,

April 7. 199 So. Water St., Chicago, Ills.

NEW YORK—Market quiet, especially on Comb. Fair demand for extracted. Beeswax scarce and wanted. We quote as follows:—Fancy white, 13c; No. 1 fancy amber, 11c; No. 1. 10c; white extracted, 6½c; amber, 5½ to 5¾c; dark, 5c; beeswax, 29 to 30.

HILDRETH & SEGELKEN,

265 & 267 Greenwich St., Cor. Murray St.

May 2. New York.

CINCINNATI, OHIO.—Since warm weather set in, hardly any sales of comb honey are made, what little there was sold, was fancy white and brought from 12½c to 13½c. Extracted has a fair demand, as follows: Amber, in barrels from 5¾ to 5¾, in cans ½c per pound more; Alfalfa, 6½c; Fancy White Clover,7½c; nice yellow Beeswax 30c.

C. H. W. WEBER,

July 4 Cincinnati, Ohio

CHICAGO—We report a very good trade on Comb and Extracted Honey during the month of April, at which time we greatly reduced our stock. If producers still have any honey unsold, would advise letting it come forward; no doubt we could dispose of it so as to show satisfactory results. We quote as follows: Fancy white, 12 to 13c; No. 1, 11 to 12c; white extracted, 6 to 7c; amber, 5 to 6c; beeswax, 29 to 31c.

S. T. FISH & CO.,

May 3. 189 So. Water St., Chicago, Ills.

KANSAS CITY, MO.—Demand for honey is good, supplies light, and we look for higher prices. We quote as follows: Fancy white, $2.50 per case; No. 1, $2.40; fancy amber, $2.25. white extracted, 6½c; amber, 5½c; beeswax, 30c

C. C. CLEMONS & CO.

May 2 Kansas City, Mo.

ALBANY, N. Y —The honey market is dull; and it looks as if some would have to be carried over the season. A large portion of the stock is candied hard in the comb, from the long, cold winter. We quote as follows: Fancy white, 13 to 14 c; No. 1 white, 12 to 13 c; fancy amber, 11 to 12 c; No. 1 amber, 10 to 11c; fancy dark, 11 to 12c; No. 1 dark, 10 to 11c; white extracted, 6 to 6½c; amber extracted, 5½ to 6c; dark extracted, 5 to 6½c; beeswax, 28 to 30c.

H. N. WRIGHT,

Wholesale Commission,

April 1 Albany, N. Y.



BOOKLETS
—FOR—
BEE-KEEPERS

Modern Queen Rearing

By Geo. W. Phillips, foreman of the queen rearing yards of The A. I. Root Company. Anyone can supply his own apiary with the best queens at a little cost. This booklet gives simple, complete directions for doing so. All can understand it. The method itself is the best. It is no particular "system" of one man but embodies the best in them all. An expert can gain information from this book while the novice will find nothing but what he can understand and do.

Price, 15c post paid

How to Produce Extracted Honey

Every bee-keeper who runs for extracted honey should read this booklet. It is full of valuable information. Many labor saving devices and plans are explained. It tells how to care for and work the extracting machine: uncap combs, etc. How to render cappings and broken combs. Also how to put up honey in the most attractive form for retailing. It gives in fact everything that is wanted on the subject in the cheapest possible form.

Price, 15c post paid

Special Offer—Both Books for 25 cents

THE A. I. ROOT COMPANY

MEDINA, OHIO



AUGUST, 1904.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 199

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Aug. 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines aud upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rocky Mountain Bee Journal	(1 00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee - Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership, $1.00.

Send dues to Treasurer.

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President.

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C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, although this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly, in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.....	130	W. Va....	172
Iowa..	800	N. H. ...	158	Wash.....	128
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

The Bee-Keepers' Paradise.

300,000 Acres of Wild Land for sale, in the famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars.

"No trouble to answer letters."

Address: 2-0-7t

J. E. Merritt,
Gen'l. Mgr.

Michigan Land Co.,
Manistee, Mich.

If the REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

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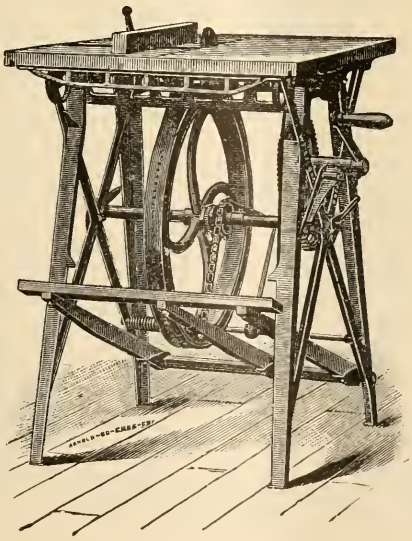
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The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

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W. Z. HUTCHINSON, Editor and Proprietor.

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The Handling and Care of Honey After it is Extracted.

BY E. D. TOWNSEND.

IN handling honey after it is extracted, we work on the theory that the quicker it is canned, after the impurities have separated, the better the honey. After honey is well-ripened on the hive, it is a question whether it can be improved by any practical known method, but all will probably agree that the body and flavor can be practically ruined by a little carelessness, or inexperience, in handling.

KEEP DAMPNESS AWAY FROM HONEY.

With the method we are about to describe, dampness is the only thing we have to guard against; and, as our honey remains in the tank only one day, all we have to do, when through extracting for the day, is to shut up the extracting house as close as possible, so that the damp night air will not penetrate the house; in fact, when we open the door the next morning, the air inside will feel warm and dry, showing that a part of the heat of the previous day has been retained over night; making an ideal place for the honey in the tank to clarify itself. We prefer our tanks large enough so that an ordinary day's extracting will fill one full, and another say, one-half full; then, when practical, one goes ahead in the morning, and skims, and cans, the partly full tank, to make room for the forenoon's extracting; and then there are usually odd times, before the room is needed, to can up the honey in the other tank.

SKIMMING HONEY.

In skimming honey we use a large iron spoon, the honey being of so heavy body, it is not practical to use a very large skimmer; then, we do not try to get the skimmings all off clean, unless it is the last time, when we want to draw all the honey out of the tank. It does not take long to run over a tank with this small skimmer, as we work right along lively, no matter if we do get quite a lot of honey with the skimmings, as we set the pail aside, and, at night, when through uncapping, we empty it in the uncapping tank, and the honey will drip down through the cappings, while the

particles of comb will stay with the cappings, where we want them, to be made into wax.

NO NECESSITY FOR STRAINING HONEY.

You will notice that, with this method of working, there is no need of a strainer. No matter how much you strain honey, it needs skimming, anyhow, so the straining does not help any; besides, it requires some work to arrange a practical strainer. Then there is the washing, and care; more work all for nothing. The gates to our tanks are now placed close to the bottom. When we first began using tanks, we worked on the principle of drawing out the *center*, so the gates were placed four inches above the bottom; but we soon found that there was *nothing settled to the bottom*, so now we place the gates clear to the bottom and this allows us to draw that much more honey before the scum begins to come through the gate. Our benches that the tanks set on, are made the right height, so that the gate will be about two inches above the 60 lb. can, when sitting on the scales.

PUTTING THE HONEY IN THE CANS.

We balance the scales at 62½ pounds, the 2½ pounds being the tare. This leaves 60 pounds net, for each can; and is much more convenient than filling the can full, then weighing, as some do. In canning honey from these tanks, one soon learns the number of cans that can be drawn. The idea is to draw all we can without getting any skimming in the can, when the balance in the bottom of the tank is left there, and handled with the next batch. Now it happens some seasons that the honey is not properly cured, no matter how long left on the hives, and, as this thin honey rises to the top, by a little care in canning, we are able to keep this thin honey by itself.

It will be seen that our honey as fast as canned up, is put directly into the cases, and nailed up, and is ready for market the *next day after extracting*. Compare this method with that of storing honey in large tanks, open barrels, tubs, pails, in fact, anything that will hold honey.

IMPORTANCE OF HAVING CANS IN READINESS.

Some people, apparently, do not have confidence enough in the business to buy their shipping cans until they know for certain just how much honey they will have; then they order their cans. At this time of the year everybody wants cans; the jobber is, perhaps, out, causing a delay; then, the freight is slow; and by the time the cans arrive the honey is candied, necessitating more work to melt it up and can it than it did to extract it in the first place. Then, many times, the bee-keeper is caught without anything to put his honey in, causing a loss that would pay for his storage several times over. Probably the greatest point in favor of canning honey as we go, is the fact that not more than one bee-keeper in one hundred, has a suitable place to keep honey in, so that the longer it is left open, the poorer it gets, in both body and flavor.

Let me repeat: have confidence in your business. Put in your stock of cans, or any other supplies you need, early; if the season should prove unfavorable, so you do not use them all this season, they will keep over all right. We have, at this writing, fifty cases of two 60 lb. cans each, or enough to hold 6,000 pounds of honey, stored away in *each* of our extracting houses, ready for next summer's use.

ADVANTAGES OF OUT-APIARIES WIDELY SCATTERED.

As we now have our honey in the cans, ready for the market, it may be well to sum up, and emphasize, somewhat, what we have already written; and, perhaps, bring out a few more points. In the first place, we have tried to impress upon the reader what

we think is the correct method of producing extracted honey on a large scale; *i e*, by keeping more bees, and doing less labor per colony. Remember, we have never said that one *could not* make colonies build up a little faster by stimulative feeding, and spreading the brood during the spring, but we *do* say that the same labor bestowed on a good many more colonies, scattered over the country, enough in a place to gather what honey the locality will supply, will, in the aggregate, prove very much more profitable. Then, again, any ordinary bee-keeper can work the let-alone system, but it requires the most skilled and careful man to feed, and spread brood, during the uncertain weather of spring. With our system, one skilled apiarist, with a few willing hands, that are not afraid of bees, to assist, can manage almost *any number* of yards, while with the old, intense system, it would need one skilled hand with *each yard*. We make our bread and butter out of the bees. We have no other source of income; and it is quite a little consolation to think that we are very sure of getting a crop of honey from *some* of our yards *every year*. Scattered around the country, as they are, they have never failed, during the six years we have been specialists, to produce enough, in *some* of the yards, so that we have made a good living; and some seasons a little to spare. We have heard it argued that there was nothing gained by having the yards widely distributed, with the idea of getting a crop at some of the yards every year. They argue something like this: That 300 colonies in one vicinity will produce, say 30,000 pounds a year for two years, which would be 60,000 pounds. If the third year were a failure, this would be the actual crop for three years. Now, with the yards quite a distance apart, there would probably be no complete failure, but working on this same theory, there ought to be one yard fail each year, so there would be no gain in the end; or, in other words, either plan would produce 60,000 pounds in three years. Admitted. But this is one of the cases where figures and actual experience vary. We all ought to have a system of spending our income, just the same as we do in producing our crop of honey. The question is, do we do it? It is doubtful if many of us make it reach the whole year, to say nothing about a failure, making it necessary to lap over *two* years. This is a matter that must be decided by the individual himself. If you are ahead, say, having a little bank account, or having an income from some other source, to help tide over a failure, that is quite sure to come, perhaps it would be better to locate your out-yards as near home as you can conveniently; but the great majority better locate a yard or two some little distance from the home-yard. Try to get them where the pasturage is of a *different nature* than your home-yard, and, take my word for it, some of these years, when your crop at home is short, you will be harvesting a nice crop away from home, that will tide you over in nice shape, thus putting your business on a *firm footing*, so that you can depend upon it for a living every year. Our Clinton County yard is in an alsike clover and basswood location; these here at Remus, have white clover, and, then, in August, we have the asters, which usually produce quite a nice surplus; then, in the spring, we will locate a yard in the red raspberry district, in Kalkaska County (see frontispiece). Now, a good crop from any *one* of these five sources ought to produce enough honey to keep an ordinary family a year. With this prospect ahead, does any one suppose that we are worrying about where our bread and butter will come from in the future?

REMUS, Mich., March 11, 1904

Keeping Track of the Age and Quality of Queens.

BY E. W. ALEXANDER.

UNTIL we know more about the successful wintering of our bees, than we do at present, the subject of increase will be one of much importance to all of us, especially to those who are anxious to have large apiaries as soon as possible, therefore I take it for granted that most of us would like to have some way marked out whereby we can make a good increase every year, and, at the same time, have it done without sacrificing much of our surplus honey in order to do it.

WHEN TO MAKE INCREASE.

I will suppose that you have been caring for your bees as you should, since taking them from the cellar. If so, then, June first, they are crowded full, and have their hives packed from side to side with brood, and are in the right condition to gather a fine surplus, provided your principal harvest comes in June or July; if so keep them from swarming all that you can and do all in your power to induce them to store their honey in the surplus parts of the hive.

This course of management should be followed until about the first of August, when, with many of you, the season for surplus honey is nearly over, and you are ready to make your increase for the season. Now, if you have been getting ready for a good increase, you ought to have as many nice, young, laying queens on hand as you have of full colonies; if so, it is but a short job to divide each colony, giving the queenless part to one of these queens; then, with but little attention after this, they will all make good colonies for another year. This gives you a chance to double your colonies each year, except what you lose in the winter and early spring.

About 25 years ago I lived in a locality where my principal harvest was in June and July; and I was quite successful with this course of management, but, of late years, living as I do in a locality where the principal harvest comes in August, I just reverse the time of increase and make all my new colonies about the first of June, which gives me two months to build them up for the August harvest. This I like very much, as it gives me *twice* the number of colonies to gather surplus.

I do wish I had time to dwell longer on this important part of summer management, but, as there are some other things to which I wish to call your attention, I will have to drop this for the present; but do try and remember the advice Doolittle has always given on this subject, that is "not only have your hives crowded full of bees at the *commencement* of your harvest but have *those bees* of the *proper age*."

HOW TO EASILY SECURE QUEENS FOR MAKING INCREASE.

Now without entering into any detailed account as to how you may have lots of surplus laying queens on hand all through the summer, I will merely say that at any time when you have a colony that is queenless from any cause, especially from swarming, and it is rearing queens, take a part of the combs containing some brood and honey, and put them into one or two empty hives, setting them on top of each other on the old hive with two wood-zinc, queen-excluding honey-

boards between each two hives, giving each hive a small entrance, and a young virgin or a ripe cell, and the bees will divide themselves about equally in each of the hives, and mature two or three queens at one time, just as well, if properly done, as they would one; and are not half so likely to swarm as they would be if all had been left together in the lower hive. This I have practiced for a long time, and it has given me hundreds of choice queens with but *very little* trouble. Shortly after they commence to lay I take out all but one queen and return the combs to the lower hive; then they are in fine shape for a clamp of sections, or, if I wish to run the hive for extracted honey, I leave on one excluder and put a hive of empty combs on top. This is only one ot many ways, if you care to attend to them, that will go a long ways in giving you all the surplus laying queens you may want.

As I run all my bees now for extracted honey, I will not take up any of the thousand and one different ways of producing comb honey. That is a trade of itself. Neither will I enter into any of the many different ways of rearing choice queens, except what I have said in the above, but there is one thing to which I wish to call your attention, and that is this: Not one bee-keeper in fifty can tell me, as we walk through his apiary, the age and quality of every queen in the yard. This is one of the most essential things to know at all times if you expect to make a *success* of the business; and I have often wondered why some one has not given us a good practical way of knowing this. Many years ago I used a book for this purpose, but often found it quite inconvenient to look over two or three hundred pages to find out what I wanted to know at a glance, so I adopted the following, which is very accurate, and tells me at once all I wish to know about the age and quality of every queen I have. Something like thirty years ago I cut out a lot of pieces of tin, some round, some half-round, and some square, about one inch in diameter, and whenever I find a young queen commencing to lay I put one of these little tin tags on the front of the hive, in the left hand corner, about two inches from the bottom. It is put on with a carpet tack through the center, and is easily taken off with my pocket knife, and it follows the queen to every hive into which she is is ever put. If she proves to be a choice queen, the tag is put a few inches higher up on the corner of the hive, and, if very choice, still higher; if she is inferior in any way, it is put over toward the middle of the hive; if very poor, it is put clear over to the other side. I use only one shape of tin each summer, with all the queens of that summer's rearing. The next summer I use another shape of tin; then, when I walk through the apiary, I can tell at a *glance* the *age* and *quality* of *every queen* in the yard; and then, when I have surplus queens on hand, I can go right to the hives that contain my poorest queens and supersede them at once without having to open any hives unnecessarily. You see, I can tell at any time I see the fronts of my hives just how many queens I have of a certain age, also their quality. If you will adopt this way of keeping track of your queens, you will soon *weed out* the poor ones and find it a great advantage to you to do so.

You must not expect large yields of honey from your bees unless you look closely to some of these things. It is very easy to bring an apiary up to a *high* standard when you give the queens the *proper* attention; always breeding from the best and weeding out the small, mismated, inferior ones. And then it saves so much time when you come to fix up for the winter. If you have all the queens in good shape early in the season, you will also have

stronger and better colonies to put put away.

Then, another thing to look after is, at all times to keep the best combs in the center of the hive. Bear this in mind whenever you handle them, and do not forget to see that there are several pounds of nice capped clover honey in the outside combs for winter. I spend half the summer preparing my bees for winter, and I never thought much of patching them up *late* in the fall as some do, and then complain that there is no money in the bee business. To be sure there is no money in it, as some run it; neither is there any money in any other business if run in a careless, shiftless, slipshod way. Give me a man who takes pride in his business; who wants the best of everything connected with it, and is willing to *study* and *work* until he shall have accomplished the desired end. Such a man will succeed in whatever he undertakes.

I hope a few of the many readers of the Review will find it to their advantage to adopt and put into practice some of the suggestions I have given in my articles for this paper; and, if so, please give friend Hutchinson the credit, for, had it not been for a very urgent request he gave me last fall to write for the Review, it is not at all likely that I should ever have written an article for publication.

DELANSON, N. Y., April 8, 1904

A Lengthy, Graphic Story of How a Drummer Sold Honey.

BY S. A. NIVER.

ONE October day, in the year 1894, there was a bee-keepers' convention held in Miles Morton's supply-factory in the village of Groton, N. Y. It was *an impromptu affair*—just a few bee-keepers from the neighboring farms, happened to be "down to the village," and nothing was more natural nor more common than to gather at Morton's shop to "talk bees." W. L. Coggshall had "come over" from West Groton; Mr. Barrows had "come down" from the East hill; Morton's brother, George, and the writer, made up the crowd. We had visited the honey-house, a few steps away, where a fine crop of comb honey was crated ready for shipment. Every section had been scraped and polished clean and white; graded carefully—not a cull in the whole lot. On the way back to the shop we had filled our hands with apples and pears, each taken an easy position on a bench or the lumber pile, and then trouble commenced.

THE PRELIMINARY REMARKS.

That confab led to results that fixed it on my mind so that I remember the gist of each one's ideas. Morton said first: "I will agree with you, that is the finest lot of comb honey, from a mechanical standpoint, I ever saw. The combs are straight and trim (have to be with our fence separators); no propolis nor travel stains; and all the combs well filled and sealed. It has taken lots of study, care and work, and we cannot hope to advance much further on *these lines*,—we are now at th e end of our halter. Still further

we make no gain at all in learning how to *sell* our honey. We just bundle it off to some city commission house, and it goes in as *honey*—without any attention whatever being paid to the care in production. The city market becomes glutted down goes the price. Oh! You all know the old story.

HOW THE "SLOP" HONEY CAME OUT AHEAD.

Only last year one of the near-by bee-keepers brought in twenty cases of 'slop' honey, that is, not up to the mark; poorly scraped, travel-stained, crooked combs, culls mixed in with the best, faced with the finest next to the glass front, and all that sort of thing. He requested me to 'just send it along in with mine, as there wasn't enough to make a separate shipment.' I declined to do so, and showed him how to mark it, and report shipment, to a well known commission house in New York. Then I hurried out an equal number of cases of my most fancy honey to the *same house*. Both went on the *same* train, but when the returns came back, he had the laugh on me for his honey sold for the *highest price!*" "Just like holding out your wallet and telling them to take what they please, and return the rest," said Barrows.

Here I chipped in: "The big guns in the bee papers say cultivate your home market."

"Cultivate your Granny," said Porter Morton contemptuously. "When one of our own members advertises in our local papers 'twenty pounds of honey for a dollar,—if you want a dollar's worth drop me a postal card,' I suppose you would 'cultivate' by advertising *twenty-five pounds* for a dollar."

COGGSHALL PROPOSES THAT NIVER GO OUT AS A DRUMMER.

Here Coggshall came out of a brown study, and, turning to me, said: "Now why don't you pack up a case of samples and go down to the Anthracite coal regions and drum the retail grocery trade in their cities? You would have no local competition, for bees can not make honey out of coal slack, and there is nothing else down there. They must get their honey in New York and Philadelphia; and it is likely to be our honey sent from here right through that region, clear to New York, and then sent over half way back again. Extra freight, cartage and commissions have to be taken out of either the producer or consumer. You can cut corners enough to leave a good margin. You are just the one to go, for you are wed to the drummer's life, while any of the rest of us would become homesick the first day. I'll bet that plan is a winner."

WHAT ABOUT EXPENSES?

After a silence of several minutes, Morton asked: "What would be the railroad fare, hotel bills, Niver's salary, bad debts, and perhaps many other expenses we don't think of now? How much would it amount to per pound of honey?" A few estimates showed these necessary expenses to be too great for the crop of honey there in Morton's honey-house.

Mr. Barrows said "It might not pay *this* year, but next year it would not cost so much, and I will come into the venture, win or lose."

Porter said: "Count me in, and also count on George and Harvey (two more Mortons) but don't pass the word around very far, or you will have too big a job on your hands."

That was the way the "Miles Morton Honey Company" was started; and it succeeded nicely the first year, better the second year, and has never failed a single year. Of the twelve members, four have joined the great majority in the higher life, two gave up bee-keeping on account of failing health; Coggshall purchased some out-

fits and produced extracted only, so the "Company" went out of business a couple of years after Miles Morton's death.

The editor asks for the exact and minute details of that method of selling honey; its good and bad points, the elements that make for success or failure, etc. Perhaps it will be as good a way to tell exactly what I did; how I improved methods each year; and *why* some ways proved good, and others bad.

SOME OF THE DIFFICULTIES OF GRADING.

My part of the undertaking grew more imposing every moment, as I thought out some of its details. A uniform system of grading and packing was absolutely necessary, so I packed every pound of it myself. To the bee-keeper who has only a white honey-flow, this would seem a simple matter; just a case of white, whiter, whitest—mix in light-weights and unsealed combs with the best to get rid of them. But I discovered that the retailer considered such grading a beastly swindle, because it left half a dozen unsalable scrubs from each case, and *there lay his profit.* I was going to meet the retailer face to face, and would not risk any such fool racket. Then we had four distinct colors with which to deal. Early in the spring we got a good quantity of sections partly filled with a clear, pink honey, always in the center of the section. Then the clover and basswood flow would account for the white combs with a pink center. A weak swarm might not finish entirely with white but put a border of good black buckwheat around the pink and white. So, it settled down to four grades (speaking of color only)—"white, yellow, buckwheat and mixed." Then came the grading according to "finish," that is, the filling and sealing. I decided to make only three grades, "Fancy," "No. 1," and "No. 2,"—and leave culls and scrubs at home to be extracted, and used as "bait" next year. Three grades only, with four colors in each grade, made it a dozen raw kinds to struggle with.

After that I found three sizes or varieties of sections; the 4¼x4¼x7 to-the-foot; besides Morton's 3¼x4¼x7 to-the-foot (the tall section) while my tall sections were 8-to-the-foot. Multiply again, and we have *35* varieties—but the end is not yet. The tall ones were packed 35 in the case for the thin ones; 30 per case for the thick ones, and 24 per case for the "standards."

I lived through it, made the trip, and sold the honey at a nice advance over the usual method. The orders were mailed home to Morton who shipped the honey as rapidly as orders came in, and I called to collect on my way home. This trip showed me the exasperating annoyances a merchant was "up against" whenever a case of comb honey came into his store. I did not wonder at the limited sales and the general feeling of disgust at the business, when I saw the kind of stock usually exposed for sale.

DIFFICULTIES WITH WHICH RETAILERS HAVE TO CONTEND—GRAPHICALLY TOLD.

In one store I was waiting for an opportunity to interview the proprietor who was busy at the time, (and, of course, that is no time to ask a man to buy) when a lady customer called for some honey. The clerk made a motion as if to take a section from a case on the counter, but an imperative "No, I do not want any of that nasty stuff," was sufficient. He then opened another case, and I *learned something right there.* Mr. Clerk took a big hatchet and tried to pry the cover. It was nailed on solidly enough for a cod fish box. When he got that cover off it was in *splinters,* which he threw

away, and then made a grab for a section, which stuck fast, so fast that he pulled the top off. There was nothing to hold the dovetailing together. He threw that top away and tried again. This time the section came out but it was bulged out at one side and caught on to the next one, raking off the caps from half of that side. The lady did not want *that* one either, but, having one out, he soon got out several more, and the lady selected one, and asked the price. 18 cents per pound,—weight 13½ ounces. Then I *did* enjoy seeing that clerk struggle with fractions; but he jumped at it, said "15 cents," got the cash, and the agony was over, or changed. When the customer had left the store the clerk tried to replace those sections. After seeing him punch a hole in one with the corner of another, I just *had* to take a hand in it.

A DRUMMER HELPS A SALESMAN.

"Pardon me, my boy," I said, "but I see you are in trouble. Allow me to help you a bit. You have sold one, spoiled three, and bid fair to beat the record by the way you go at it. Let me show you," and I coaxed them back easily. Then I had to put in a little advice in this way: "Put your mind on your work, my dear boy. You seem to be thinking of your sweetheart instead of honey. Oh! but that's right. I heard you whisper her name, 'Helen Blazes,' when you broke that second comb."

He grinned and went to attend another customer, while I examined that first case which had inspired such disgust in the lady, and no wonder. The best had been sold; the culls only remaining, excepting some "fair to good" ones with broken cells, all of them *standing in honey* which had leaked from punches, scraping and broken sections. It had stood on the counter without a cover, so was full of flies, dust, etc.

WHERE THE PRODUCER FALLS DOWN.

This may seem like a hard case, but it was not the exception; it was the general rule; and allow me to add, that just such grading and packing, just such weak and flimsy sections, seem to be the prevailing method of producing section honey. Why should it be expected to win the favor of the trade?

On my return, we met and thoroughly discussed the situation, and our conclusions, on the whole, were very favorable toward the scheme, but my specifications for the next season's crop, in the way of producing and packing, were thought to be rather difficult to carry out.

COMB HONEY MUST BE "FOOL PROOF."

First, I said, we must make it "fool proof," so that the average grocer can handle it without any chance for injury to combs. Easily done by putting sliced separators, or veneers, between the rows of sections. The cost is small, and the grocer has a nice wooden box from which to take or replace a section.

Second, all comb honey to be sold *by count*, and graded especially for that system.

Third, all honey to be ready for shipment October first—no cold weather shipments.

Fourth, no one-piece sections—only four-piece sections, well glued at each corner. I wanted a section to hold the honey, not the honey to hold the section together.

As we all used separators anyway, the bulged, "fat and lean" sections were not mentioned. Then I could assure the company a ready sale at a good stiff price, as the extra advantages were worth the extra price. I could offer my customer a better bargain than my competitor could, and that is the "pole that gets the persimmon" every time.

QUALITIES NECESSARY IN A SALESMAN.

You ask me what I say to a prospective customer? The salesman who who has a set speech to fire at every one alike, regardless of circumstances, is a parrot, and of no earthly good. Excuse a story that illustrates this idea, and another which hinges on that same adventure.

When I arrived in Hazelton, Pa., it was the third year of my work as salesman for the honey company, but my first visit to that particular city. While waiting for dinner I pumped the landlord as to the lay of the land, getting pointers as to the best merchants to tackle, etc. He told me to be very careful how I approached Mr. Blank, for he had a disagreeable habit of throwing drummers into the street, on the slightest provocation. He was wealthy, did an enormous business, and, if I could only capture him *once*, and the goods were up to sample, I would have just the best kind of a customer so long as I treated him well.

After dinner I made a bee line for that store, sample case in hand. It was a large general store, full of goods, full of customers, and full of clerks, but the first peculiarity I noticed was the very leisurely way in which most of the clerks were taking life, and the extraordinary activity of an old chap who was jumping here and there, talking half a dozen different languages and tying up bundles as if his life depended on it. "That's him," I says to myself. Putting my samples on a barrel, back by his office, I waited for him to get through with those customers. But it was like waiting until the crowd goes by down on State street, in Chicago. As fast as one lot went out another came in. I had learned the one great lesson of a drummer's life, patience, and kept still until he was at liberty. After a long wait my chance came, and he was ready for me. I had scented all along that he knew a drummer was after him. "Well sir, what is it," he snapped out, and I looked him squarely in the eye, and came back at him with "Well sir, it is my candid opinion that you are a d———d fool. For a man of your experience, ability, standing and age to work yourself to death, and let a lot of clerks hold down cracker barrels, is, in the language of the late Artemus Ward, "An egregus ass." He glanced around the store, took in the point, smiled in a kind of amused way, and said, as he walked back to his office with me, "Young feller, I guess you are about right," and I sold him the largest bill of honey I ever sold to any one party at one time. But I am not done. This *shipment was smashed* as badly in transit as any shipment the honey company ever made. On my return trip to collect the bill, I walked into his store, expecting compliments, bouquets, etc., but was shown a broken up, *smeared* lot. Some cases were upside down, and the broken honey had leaked out, run down over the other cases, and formed puddles on the floor. My friend, the grocer, waited for me to open the conversation, which I did by abruptly asking "Why did you receive honey from the railroad in this shape?" He said he was busy when it came in and one of the clerks receipted for it. I said "humph" with as much expression as I could command, then pulled off my coat, took off my cuffs, rolled up my sleeves, and told him to get a pail of warm water, a good sponge, a hatchet and a big dishpan. I did not say "please" do this, nor *if* you will get these, I will clean up a little. That man cared more for *action* than for soft ways. He did the acting, too, and in a jiffy we were cleaning and repacking. As I expected, it looked worse than it really was. The broken combs were cut from the sections, and put into the big dishpan to be sold as chunk honey, cases washed, (any bee-

keeper knows the process) but the surprise to me came good and plenty, when that merchant pulled *his* coat, got another sponge, and went at the work with a vim, and with good judgement, too. "Ah! Mr. Blank," I said, "it is plain to see how you built up your big trade. You know your business from the ground up."

That evening I took the train for home with a check for the full amount of the bill, and left a good friend as well as a good customer, in the person of that high-tempered old chap—the terror of drummers. But that episode resulted in our getting out big lettered stickers covering the whole top of a case, which read: "This side up. With care. Don't handle on two-wheeled trucks,"—that helped the breakage problem, in a measure.

A FEW SUGGESTIONS.

I tried to make my customers see that our interests were mutual, that whatever helped to make honey sell easily, that increased its consumption and popularity, whether by increased attractiveness or tempting price, was to the advantage of *both*. Any information about the best place to keep stock, the whys and wherefores of our being able to produce honey that looked so much more tempting than others, and any other information asked for was cheerfully given. I had the same price for the small corner-grocer, who wanted only one case, that I quoted to the largest dealers who bought fifty or more cases. As we paid the freight, I sent all the small orders to one man, and paid him to deliver to his neighbors, saving book-work, way-bills and freight charges. I persuaded customers to order their entire season's stock at one time, as we would not ship in cold weather, and honey stored rightly would keep a year, I, at the same time, showing them where and how to keep it.

THE INFLUENCE OF LOCALITY IN SELLING HONEY.

Now, Mr. Editor, the locality, like everything else connected with the bee business, must be studied to make the foregoing intelligible. Here were twenty or more towns and cities, entirely outside of honey producing flora, deriving their living from coal and iron. There were no wholesale commission houses where the merchant could "phone for a case of honey at any time." Just how serious this obstacle is, I found out by a trip to Massachusetts one fall. We had a big crop, New England a failure, and quotations were away up in Eastern cities, so I took a little voyage of discovery. First snag I encountered was a fake firm furnishing quotations to the bee papers, quoting their market as "very active," and two cents per pound higher than they were *offering* honey for, openly. A letter from us to the journals explaining the situation, closed them out of the "honey quotations" columns.

THE CONSERVATISM OF BOSTON.

My experience with a large grocery firm in Boston is a type of Yankee business methods, so I will describe it. The store was very large, clean and neat, and, at a guess, I would say there were fifty clerks. Some honey was displayed, marked "only 25c each." I called for the buyer, who was at once at my service—polite as possible. He complimented me on my honey, and the way it was packed, and agreed with me that it was a great advantage to the retailer. Then came the price. I asked him if he thought my fancy white brand would sell as well as the stock he had marked "only 25c each." "Oh! fah bettah," he said. (No 'r' in the language of the Hub.) Then, said I, how would it sell if you marked it 15c each, instead of 25c? You can do it and make a net

profit of 25 per cent., for I will deliver it at 12c for each section.

He was delighted, enthusiastic, and, after studying the situation carefully, told me he would "owdah *two cases.*" I did not retail goods, and told him so; showed him in my order book the sale I made to a little Pennsylvania Dutch grocery, where the man, his wife, and a son under twenty did the entire business of selling and delivering, and that order was for 42 cases; he must order at least 50 cases, or we could not deal. The poor man nearly had a fit. They *never* bought over two cases at a time; and, what if it did not all sell, but spoiled on their hands? He "pwefahed" to phone for one case at a time even at the higher "pwice." In vain I showed him how it would advertise his store to sell honey at that rate, what a drawing card it would be as a leader, etc. Oh, no; it was out of that cast iron Yankee rut, and so like the wild and wooly West, which would never do for Boston, doncher know. What a blessing it would be to the people of that ancient place, if some wild western firm would start a provision store there, and price goods so they could afford something beside *beans.*

Such a market as I found in the coal regions does not exist elsewhere, and isn't large enough to cut much of a figure in this vast problem of how we shall sell our honey to the best advantage.

DIFFICULTIES IN THE WAY OF ESTABLISHING A HONEY COMPANY IN A LARGE CITY WHERE COMMISSION MEN HANDLE HONEY.

The large majority of comb honey is produced without separators, not evenly graded; and is sent to large commission houses for sale. The commission man must price it low enough to make it move. Suppose some honey company should send a drummer into this city (Chicago) with a stock to dispose of that was of the Miles Morton variety, having all the improvements calculated to tickle the fancy of the grocer, and should commence to stock up the retail stores at the same price as quoted by the commission houses. If the honey company were a small concern, it would create no ripple worth mentioning, but, if large enough to affect sales unfavorably in the commission houses, the inevitable result would be—cut the prices low enough to affect sales. The grocer would soon find his neighbor selling at less than his own stock cost him, and he would buy only from "hand to mouth" when next you tried him. If the honey company could stay in the game long enough, it would drive the slop honey man out of business, and reap the reward, but *where* can such a company be even started? Who has the ability and hustle to manage successfully, such an incongruous lot of "know it all" kickers as the bee men, great and small, have shown themselves to be?

How did I apportion the expenses? By adding all expenses of every kind, and dividing the sum total by the number of cases sold, on the theory that it cost as much to sell one kind as another. That gave the expense per case. Each member had a memorandum of the number of cases and grades in the lot he contributed to the pool. In settlement I made out a statement something like this:—

Mr. Blank

10 cases Fancy White	@	$3.00	$30.00
10 " No. 1 "	@	2.50	25.00
20 " Fancy Buck.	@	2.50	50.00
10 " No. 1 "	@	2.00	20.00
50 cases, total,			$125.00
Expense, 50 cases @ 32c			16.00
			$109,00

Chicago, Ills., Feb. 2., 1904

Editorial

FRED H. LOUCKS, of Lowville, N. Y. writes: "I am going back to the old way—plenty of winter-stores, and a young queen, and then quit all spring-tinkering."

CUBAN COMPETITION, which some of us have looked upon as more or less of a bugbear, keeps looming up in a way that makes us think that it may yet prove to be the real thing.

E. D. TOWNSEND, in his closing paragraphs this month, writes some of the most encouraging words that it has ever been my lot to read. One most cheering feature is the fact that they are written from actual experience.

MISSOURI STATE bee-keepers will meet in St. Louis, Sept. 26, in the same hall as the National meets. Further particulars later. Arrangements are being made by C. P. Dadant for their accommodation in connection with the N. B. K. A.

AN OLD BICYCLE wheel fitted to a wheel barrow is described in Gleanings by Mr. C. A. Bostwick, of Verbank Village, N. Y. Such a wheel on a wheelbarrow used in the apiary would take off the jars that are so irritating to bees, and sometimes break down combs.

"THE IRISH BEE GUIDE," is the title of a book for which I have to thank its author, J. G. Digges, editor of the Irish Bee Journal. The book contains 220 pages, is nicely printed and well illustrated, many of the cuts being made from photographs taken by the author. It is a book that will compare favorably with most of the standard text books.

TEXAS bee-keepers are making up a carload of bee-keepers to go together to attend the National convention next September, in St. Louis. They will leave San Antonio the evening of September 24th, over Katy. Anyone wishing to go with this crowd, or join it while on its way out of the State, can obtain full particulars, sleeping car rates, etc., by addressing H. H. Hyde, of Floresville, Texas.

DIFFICULT PROBLEMS ought to be settled in the morning when the body and mind are fresh and rested. Many a time have I laid aside some puzzling question at night, saying to myself, "I won't think about it any more tonight. In the morning I will feel brighter, and can think more clearly." When morning came the matter was decided so easily that it almost seemed as though it had settled itself.

GOOD MANAGEMENT, and enterprise, often win even under adverse circumstances. For instance, the winter-losses of bees were very heavy last winter in New York, and Mr. Fred H. Loucks, of Lowville, instead of sitting down and mourning over the loss of nearly half of his bees, went to work and bought up all of the bees that he could find for sale within fifteen miles of his home. Now he is getting a good crop of honey from these—July 4th his best colonies were nearing the 75-pound mark.

A ROUSED UP, or angered, colony will sometimes decline to be subdued

by smoke. The moment the smoker is laid down, dozens of angry bees attack the operator. Such behavior is characteristic of the Cyprians. The proper treatment is to close the hive, and the entrance, and then drum, or pound on the hive a short time, when the bees will fill themselves with honey, and may be handled with ease. Someone (I think it was Mr. L. A. Aspinwall) called my attention to this point while I was out on one of my inspection-trips.

"PREPAREDNESS is the secret of most successes," says Senator Beveridge of Indiana. I believe I have written before on this subject in the Review, but I wish to call attention to an illustration upon which is now turned the eyes of the whole world—the conflict between great, overgrown Russia and little Japan. There is probably more than one reason why victory has thus far perched upon Japanese banners, but the principal one is that Japan has been for years preparing for this very struggle, while Russia was wholly unprepared. Once more let me say: "Preparedness is the secret of most successes."

AN OBSERVATION hive containing a colony of bees was kept for several years in the dining room of the editor of the American Bee-Keeper, and proved, among other things, that bees will store honey where there is light, as they did in this case in a glass globe placed on top of the hive, notwithstanding the popular belief that they will work only in the dark. Another interesting thing is the fact that the colony wintered perfectly although the room was kept constantly at a temperature that was comfortable for the family, natural gas being used as a fuel.

UNCAPPING the combs is one very laborious portion of the work in producing extracted honey. A correspondent in Gleanings, after telling how he supports the comb on a slanting board attached to the top of the uncapping tub, says, "When all is ready I take my honey knife in my right hand, start at the top right-hand corner, run across to the other end of the top-bar, down across the end; then cut up and down as I come back to where I started, and one side is nearly all off." Mr. Woodhouse, who writes thus, ought to read Mr. Townsend's article in the last Review, and learn how he uncaps one whole side of a comb at a single clip.

PURE ORANGE bloom honey is sometimes secured in large quantities; so writes Mr. Frank McNay, of Redlands, California. He says that near the coast, in California, the weather is seldom suitable (too cool) when orange blooms to secure much surplus from that source, but, farther inland, at Redlands, for instance, which is 80 miles from the coast, the weather is warmer when the orange is in bloom, and bee-keepers secure not only barrels, but tons and carloads of pure orange bloom honey. A Mr. E. B. Rood, of Braidentown, Florida, writes the American Bee-Keeper that as much as 50 pounds per colony of pure orange honey has been gathered per colony in his locality.

A VERBATIM REPORT of the proceedings of the National convention that will be held in St. Louis, Sep. 27-30, together with the annual report of the General Manager, is expected to be in the hands of the members within three weeks after the close of the convention. The report will be gotten out at the Review office, and we are now at work getting up the lists of names, printing the advertising pages, etc., so that when the convention is over there will be nothing more to do

than to get out the report of the convention. Mr. Geo. Angus, of Toronto, Ontario, has been secured as a reporter. Mr. Angus is not only an expert reporter, but he understands something of bee-terms, as he has, for several years, reported the proceedings of the Ontario bee-keepers' convention. He also reported the Denver convention of the National in 1902.

THE ANNUAL CONVENTION of the National Bee-Keepers' Association will be held Sep. 27-30 in the auditorium of the Christian Endeavor Hotel, within 100 feet of the south entrance of the St. Louis Fair. Vice President C. P. Dadant has just returned from the Fair, and has secured the best possible rates for the members.

Special rates:—Send at once 50c to Gen. Manager N. E. France of Platteville, Wisconsin, to secure Charter certificate to insure you special rates at above hotel. $1.00 day lodging, or $2.00 day board and lodging. Otherwise, higher rates will be charged. Make it a point to attend the Fair the week before or after the convention, and thus continue your reduced rates. Other hotels near, but higher rates charged. Market St. street cars, west bound in front of Union depot, will bring you direct to the above hotel without transfer.

N. E. FRANCE.

THE UNTIMELY DEATH OF MR. H. C. MOREHOUSE.

Mr. H. C. Morehouse, the genial, wholesouled, likable ex-editor of the Rocky Mountain Bee Journal, is dead—died Sunday, July 24th, after an illness of only eight days from appendicitis. Only a short time ago Mr. Morehouse sold one of the most prosperous of the newer bee journals, that he might give his undivided time to honey production, in which he employed about 1,000 colonies.

He was a young man, only a little over thirty-five, and, had he lived, would undoubtedly have been one of the honey kings of the West. I have visited him in his home, know how happily he was situated, and can realize something of the loneliness that must come to the wife left to care for the little boy of only 16 months.

BLACK BROOD IN SOUTH-WESTERN MICHIGAN—PROBABLY.

Last August, while on my way to California, I stopped at Dowagiac, Michigan, and examined two apiaries out about three miles from the city. The bees did not swarm, and the colonies were dying off at a fearful rate. I was puzzled to know what was the the matter. It was not foul brood, as there was no ropiness, and too much of the brood was diseased. Foul brood, as a rule, begins with only here and there a cell, gradually increasing in number, but this trouble seemed to attack nearly all of the brood in a hive, leaving it a dull, dirty brown, or yellow. Very little of it reached the stage where it was capped, and a disagreeable sour odor seemed to pervade the hive. One apiary of 30 colonies had rapidly dwindled to only 20, and the other of 18 had gone down to 9. Mr Heddon and myself examined a large number of his colonies, and found them all healthy. I cut out a piece of comb from one of the diseased colonies and showed it to Mr. France, and he said it showed some of the characteristics of black brood, as he understood the matter, and advised caution.

This spring Mr. Heddon noticed that his weak colonies did not build up as usual—kept getting weaker—and, upon examination, he found them affected with this same trouble. I went with him to his yard, and helped him find and kill 20 queens in his weakest colonies, and there were not enough live bees left in those 20 colonies to make one good colony.

I cut out pieces of the comb containing the disease, and mailed them to two of the New York inspectors. One replied promptly that he was not positive what it was, and had sent it to Professors at Ithaca for microscopical examination. If he could examine several colonies and see the disease in all of its stages, while fresh, he felt that he would be able to diagnose the trouble. Another one of the inspectors wrote me as follows:—

Sammonsville, N. Y., July 16, 1904.
Friend Hutchinson:—

Your sample of brood just received last night, on my return from an inspecting tour, and this makes the sample rather old. Now comes in one of the reasons why I wanted all the inspectors to get together in June, each bringing several samples of diseased brood, so we could all see the several kinds of, or rather phases of, black and foul brood. I do not hesitate to say, even with this *old* sample of brood, that it is a *type* of black brood, and if it works with you as it does with us, it may spread *very fast*.

Now, it is my experience that it is not a *contagious*, but an *infectious* disease, and may be carried on tools, clothes, or by the bees themselves, and it took me two years to learn how it could travel three to five miles away; and that was by bees from diseased colonies flying far afield, and, sudden storms overtaking them, they dropped into the first hive of bees they found, thus carrying the germs of disease. I know such to be the case,

Treat the same as foul brood. I wish I could talk to you for half an hour. I might give you the benefit of my experience, as, in writing, I probably will be telling you a lot you already know. But, *suppose* a yard of 20 colonies is diseased; 10 colonies strong and 10 weak. Shake the 10 strong ones and take all of their brood and put it with the 10 weak ones, first taking out all combs of the weak not having brood, and rendering them into wax. As soon as the weak ones are strengthened enough by the good brood hatching, shake and stack the brood on one or two of the weakest, and, finally, shake the last one, which will be the only one where any brood is sacrificed.

If all were *very* weak it is sometimes best to unite several. We have had to unite as many as 10 colonies to make one good one (several years ago.)

It is always *worst* when it *first breaks out*, especially among black bees, or any bees that are weak in vitality by too close inbreeding. Young, vigorous Italian queens ars a great help. When too late to treat, if healthy colonies have an extra set of filled combs, the diseased colonies' combs may all be taken away from them, if they are strong enough to winter, and a set of filled healthy combs given them, and they will be healthy in Spring, if all brood rearing had ceased at the time this was done.

If I can be of any service to you at any time, write me at once.

R. D. Barclay, of the State Agricultural College, of Pennsylvania, has been traveling with me for ten days to learn bee disease and honey producing and Prof. Benton wants to travel with me for a week in August, to study the situation. It is only here and there that I now find a case of black brood in my division of 13 counties.

We have the disease by the throat, and bee men are jubilant. This is a good honey year. I have extracted 3,000 pounds of fine honey from 17 hives (no increase) and have 7,000 pounds of honey (comb) in sight from 135 colonies, spring count. Another yard of 40 colonies I have had worked on shares, and do not know what they have. Hope to meet you at St. Louis.

Yours,
CHAS. STEWART.

I spent several days at Dowagiac, driving about the country several miles in all directions, but found only one other diseased apiary besides the two first mentioned; and that became contaminated from taking a colony there from one of the diseased yards.

One of the first-mentioned apiaries, the one that had nine colonies last fall has only one left, and that one is about dead. The one that had twenty, now has only eight, and all diseased except a swarm that built its own combs this year. As soon as the harvest is over, all of these apiaries will be destroyed. The bees will be brimstoned, the combs made into wax, the hives packed away in the cellar, and further developments awaited.

OFFICERS OF THE NATIONAL BEE-KEEPERS' ASSOCIATION TO BE NOMINATED IN ADVANCE OF ELECTION.

One of the latest amendments to the constitution of the National Bee-Keepers' Association provides that the Board of Directors may "prescribe equitable rules and regulations governing the nominations for the several officers," and the Board has just decided that the General Manager shall, in August, publish in the bee journals a call for a postal card vote of the members of the Association for the nomination of candidates for the several offices (stating the offices) to be filled at the next electlon. On October 1st the General Manager and one other disinterested member chosen annually by the Board of Directors, shall count the votes, and the two men receiving the greatest number of votes for each respective offlce are to be candidates for said office; the names of the nominees and the offices for which they are nominated to be published, *at once*, in the bee journals.

In accordance with the foregoing, I hereby ask all members of the National Bee-Keepers' Association to write me their choice of men as candidates for the following offices:

To succeed Jas. U. Harris, of Grand Junction, Colo., as President.

To succeed C. P. Dadant, of Hamilton, Ills., as Vice President.

To succeed Geo. W. Brodbeck, of Los Angeles, Calif., as Secretary.

To succeed N. E. France, of Platteville, Wis., as General Manager.

To succeed E. Whitcomb, of Friend, Neb., as Director.

To succeed W. Z. Hutchinson, of Flint, Mich., as Director.

To succeed Udo Toepperwein, of San Antonio, Texas, as Director.

October 1st the votes will be counted, and the names of the two men receiving the most votes for each respective office will be published in the bee journals, then, in November, a postal card ballot will be taken which will decide which of the nominees shall hold the office.

Send all votes to

N. E. FRANCE,
Platteville, Wisconsin.

THE KIND OF WORK IN WHICH THE REVIEW DELIGHTS.

Perhaps the Review is not entitled to any credit for the results as shown in this month's frontispiece, but that is exactly the kind of bee-keeping that it is advocating—secure a good location and then spread out and occupy it. Mr. E. D. Townsend has been spreading out for several years, and now he has ventured into a new field—one in which there are thousands and thousands of acres of wild raspberries—thus adding another factor of safety to his business. Just beyond where those saw-logs are "banked" is a railroad, equipped, at this particular spot, with a side track. Mr. Townsend's two portable honey-houses and tent are not more than three or four rods from the side-track. There are two regular trains each way, daily, and they will stop on signal. Kalkaska, the county seat, is only four miles away, so you will see it is almost like living in the woods with a street car passing by the door. There is no necessity for keeping a horse, as freight will be dropped off if prepaid, and a car will be placed on the side-track if there are several thousand pounds of honey to ship out. This railroad is a branch of the Pere Marquette, is about 30 miles in length, and runs through a raspberry region. When the timber is cut off for saw-logs, as is seen in the illustration, the berries come in and occupy the soil, and stay right there for years and years. Mr. Townsend and his brother now have 275 colonies at this place

and it is likely that they will establish more apiaries at other sidings along the railroad.

Now, reader, I mean *you*, not the other fellow, why can't you do exactly as Mr. Townsend has done? Why can't you find some good location if you have not one already, and then branch out and keep enough bees, in different places, so as to be assured of an income? Friends, do you realize the possibilities in our business? I fear not. At least, many of you fail to take advantage of them.

CAN BEES BE WINTERED IN CHAFF WITH THE HIVE ENTRANCES CLOSED?

A subscriber in Ottawa, Canada, asks for advice on the following subject. He says:

"I have sold my place and am moving to town, and, in order to keep the bees, I have made arrangements with a friend for them to be kept at his place, I to have the use of an enclosed shed. My difficulty is in regard to the wintering of them, as they must be wintered in this shed. How would the following plan answer? Board in a bin against one side of the shed (inside the shed) making the bin about a foot wider than the length of the hives, and place the hives in the bin with the entrances turned outward from the wall, and surround the hives with five or six inches of planer shavings well pressed down, with a cover to the bin. How can the entrances be protected? If they are enclosed in the shavings the air would be excluded; if left open, there is too much exposure.

I would like to know if the plan will work; if so, how to manage the entrances; also how to guard against mice."

I am not certain that I understand my friend exactly. If the shed is enclosed on all sides, the same as an ordinary room, and he proposes to turn the entrances *in*, which will exclude the bees from the open air, then I do not approve of the plan. Bees wintered out of a cellar ought at all times to be able to reach the open air should the temperature allow it. If the shed is open on one side so that the bees can fly from the entrances, the plan is all right. Simply make a bridge to put in front of each hive, which will enable the bees to reach the open air. Contract the entrance sufficiently to exclude mice. It is not likely that enough cold air will come in at the entrances to do much harm. If there is any fear that there will, a piece of board may be placed against the outer entrance, to be removed if the weather should be warm enough for the bees to fly. If this plan is followed, there must be a certainty that the bee-keeper will be at home when the warm day comes.

If the hive has a loose bottom board, it may be well to place a two-inch rim of wood under the hive. By cutting an entrance in the *upper* edge of the rim, there will be no danger of its becoming clogged with dead bees.

EXTRACTED DEPARTMENT.

THE CANDYING OF HONEY.

Is it Possible to Influence the Size of the Grain.

If consumers can be educated and induced to buy honey in the granulated state it would be an advantage to the producer, and anything that helps in that direction ought not to be neglected. Mr. John S. Callbreath, of Rockrift, N. Y., tells Gleanings of some of his experience, and asks some questions

that are well worth considering. He says:—

I have just had the opportunity of reading up some of the back numbers of GLEANINGS. On page 1001, Dec. 1, you speak of "Eastern honey" as though it were about all alike so far as its candying qualities are concerned. My experience is that basswood honey will candy in less time than clover and raspberry, and will have a *much* finer grain. I have never stirred any in either case.

I was all ready to put up some in the Aikin honey-bags last summer; but the short crop, with brisk demand, prevented. My plan at present is to put all of my basswood extracted in the bags, partly because it candies with a fine grain, but mainly because that peculiar flavor to which many object is hardly noticeable in the candied state. I wonder if that isn't true of other honeys that are described as being "minty." The clover and raspberry I expect to put up in tin. cans, partly because I have an early demand for extracted honey, but mainly because I think its *good* flavor is partly concealed by candying.

When the bags first came I opened one, poured some water in it and it leaked just a little. I tried a second and a third, with the same result; so I decided that, when I wanted to use them, I would paraffine them; then, if I wanted to, I could fill them with liquid honey and let them candy when they got ready, without the bother of watching and waiting till the honey was thick enough so the bags wouldn't leak, but not so thick that it wouldn't run well.

I paraffined a few, just to see how it would work, leaving them spread out full size. When I put them away I put them up two and two, slipping the one over the other so as to keep out all dust. Later I filled half a dozen of them, again using one of the empty paraffined bags as a cover. So tight was the fit that the smallest of ants couldn't have got through to the honey, and yet they went on easily enough. At present they are about as hard as a frozen turnip. I am keeping them to hasten granulation in the summer's honey. I proved by trial last summer that the mixing-in of *some* candied honey hastened the granulation of new honey.

I have been asking myself some other questions: Would the mixing of half a pound of candied honey that has a *fine* grain, with 60 lbs. of new honey that, left to itself, would have a *coarse* grain, cause the latter to have any *finer* grain than if the same amount of candied honey of its own kind were mixed with it—the amount of mixing done to be the same in both cases? Also would the mixing of candied honey, that has a *rapid* granulation, with new honey that has a *slow* granulation cause the latter to granulate any more rapidly than if an equal amount of candied honey of the same kind as the slow-granulating honey were mixed it? I shall seek to answer them later. I might add that I produce mostly comb honey. But the *home* demand for extracted honey keeps growing so each year that I keep producing more and more of it.

The editor of Gleaning replies in part as follows:

"There can be no doubt that mixing granulated honey with ordinary liquid honey will hasten the process of granulation in the whole mass; but whether the fine-grained article would have a tendency to make other honey *all* fine-grained is something I can not answer. I should be glad to get reports from those who have tested it.

I WILL BUY

a few tons of honey and pay cash at your depot, Correspondence solicited. Give full particulars as to quality, sections, when it will be ready to ship, price wanted, etc. If satisfactory I call on you. A. W. SMITH,
8-04-3t Birmingham, Mich.

100 Swarms for Sale

In a fine basswood and clover location; bees in fine chaff hives with five inches of packing; and there are fixtures for producing both comb and extracted honey. Address 6-04-tf
E. D. OCHSNER, Prairie du Sac Wis.

HONEY FOR SALE

Several tons of choice Extracted clover honey, put up in Kegs holding about 160 lbs. net, at 6 cents per pound, F. O. B. Delanson. 8-04-tf
E. W. & F. C. ALEXANDER.
Delanson, Schenectady Co., N. Y.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

ITALIAN QUEENS

Either Golden or Honey-Queens after July 1.

Our GOLDENS will come up with any other Golden strain. Our HONEY-QUEENS are what some breeders call "Red Clover Queens."

	1	6	12
Untested	$ .75	$ 4.00	$ 7.00
Tested	1.25	7.00	13.00
Breeders	5 00	....	....
2 frame Nuclei(no queen)	2.00	11.50	22.00

When Queens are wanted with Nuclei add price of any Queen wanted. We guarantee safe arrival of all Queens and Nuclei. Our Breeders may be returned after 30 days if satisfaction is not given Cash must come with orders. Orders are booked and filled in rotation.

Mr. Gus Picaman, of Litchfield, Ill., in aletter of Aug. 3, 1903, says: "Send me two untested honey queens. The one I bought of you two years ago is all right. There are no better."

Mr. Frank D. Gonderson, of Oconomowoc, Wis. says in a letter dated Aug. 1, 1903: "I like your queens the best of any that I have ever had." This man placed an order last August for 24 Nuclei to be delivered this spring.

Address all orders to

D. J. BLOCHER, Pearl City, Ill.

6-'04-tf

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4-04-9t

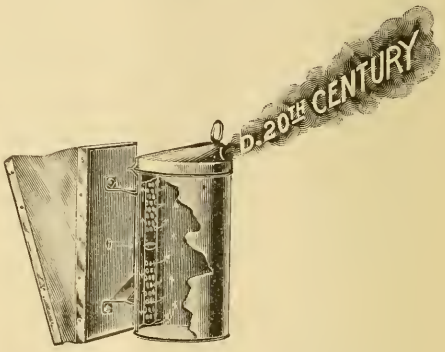
E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

DANZENBAKER

20th Century

SMOKER



A SMOKER SURE FOR $1.00.

Guaranteed to Suit, or Dollar Back.

The last in the field, combines the best features of others, with special ones all its own.

It has a perforated draft-grate at the side that strengthens the fire-cup and holds a removable lining and packing in place, that keeps the fire-cup cool, thus adding to its durability. This lining can be replaced at small cost.

The draft-hole is midway of the fire-cup, directly opposite of the only opening in the bellows, from which the air is forced and deflected upward or downward, or both ways, as desired, to secure a dense or hot or cool volume of smoke, which is determined by the filling and lighting of the fuel.

It is superior in make-up and material.

It has no parts that can clog with soot.

It will continue to smoke from three to ten hours, in light work, until all the fuel is burned.

It wins friends who willingly recommend it to others.

Full directions for use, and preparing special fuel for subduing bees and destroying the eggs and larvæ of the wax-moth, with each smoker.

PRICES:

$1.00 each; three for $2.70 when sent with other goods. By mail, each 25 cents extra.

ADDRESS

F. DANZENBAKER

Care The A. I. Root Co. Sec. 1, Horticulture Bld.

St. Louis, = Missouri.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04-tf

J. B. Case, Port Orange, Fla.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested, ..	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

Page & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

PERFECT GOODS!

LOW PRICES!

A Customer Once, A Customer Always.

We manufacture BEE SUPPLIES of all kinds, (been at it over 20 years). It is always best to buy of the makers. New illustrated catalog free. For nearly 14 years we have published The American Beekeeper, (monthly, 50 cents a year), the best magazine for beginners. Edited by one of the most experienced bee keepers in America. Sample copy free.

The W. T. Falconer Manf'g Co.

JAMESTOWN, NEW YORK

Wm. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save freight.

THE DEMAND FOR

Moore's Strain of Italians

becomes greater each year. The following report shows the reason why:

Excel in Storing Capacity.

B. S. Taylor, a large honey-producer of Perris Calif., who sent me an order for 75 queens at one time, says: "I have a large apiary mostly of your stock, and I have never in my 30 years' experience, seen so quiet and gentle bees to handle, and in storing capacity they excel anything I have ever had."

Untested queens, 75c each; six, $4.00; dozen, $7.50. Select untested, $1.00 each; six, $5.00; dozen, $9 00.

Safe arrival and Satisfaction Guaranteed. Descriptive Circular Free.

I am now filling orders by return mail, and shall probably be able to do so till the close of the season.

J. P. MOORE,

Morgan, Pendleton Co., Ky.

For Sale!

100 winter cases

Having moved one of my yards to a deep snow location, where bees do not winter well in chaff, I offer for sale, 100 winter cases, built for 10-frame hives. Of course they can be used for an 8-frame hive and give room for more packing. They are built of ⅜ inch white pine, boarded up and down, with a sheet steel roof, which has always been kept painted. Order in even numbers, as the stands go with them, and are built in pairs, and form the bottom of the case. They have only been used five seasons, and are nearly as good as new. 75 cents each takes them.

Honey For Sale.

Our new crop of extracted honey is now ready for the market. It is white and nearly all in new 60-pound cans, we get 8c per pound here for the best. Sample free.

E. D. TOWNSEND,

Remus, Mich.

$250 IN PRIZES

Will be given away for the best article submitted on Bee Culture, Honey Production and its Distribution. Here is a chance to earn some money. Full particulars in the August number of the Journal. Write now.

WESTERN BEE JOURNAL

A. F. ADELSBACH, Editor and Publisher

Hanford, Calif.

For ROOT'S GOODS in

MICHIGAN

M. H. HUNT & SON

Send for Catalog Bell Branch, Mich.

Our $10,000 Bee-Keepers' Supply Manufacturing plant is ready for business. Send for price list.

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

STANDARD BRED QUEENS.

BUCKEYE STRAIN RED CLOVER.
GOLDEN ITALIANS. CARNIOLANS.

By Return Mail. Safe Arrival Guaranteed.

PRICES.	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00
Select Breeders, each		$3.00	
Two-frame Nucleus and nice Queen		3.00	

THE FRED W. MUTH CO.,
No. 51 WALNUT ST., CINCINNATI, OHIO

Shipping Cases

No-drip, 24lb, $13.00; 12lb, $8.00; 20lb, Danz. size or for 4 x 5 sections, $10.00. The $1.00, 1½ story, 8-frame Hives still goes like hot cakes. Sections, Foundation and all kinds of Bee Supplies on hand. Send for list

W. D. SOPER,
R. D. 3 Jackson, Mich.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. They work on red clover as well as on white clover- Untested, 70c each, two for 1.25, or $7.00 a dozen; tested, $1.00, or $10.00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular. G. ROUTZAHN,
4-04-6t Biglerville, Penn.

Please mention the Review.

Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers.

Large and complete stock on hand at all times. Low freight rates.

Prompt Service. Catalog sent free.

Walter S. Pouder

513-515 Mass. Ave.

INDIANAPOLIS, IND.

What They Say!

Hillsboro, Wis.

W. H. PUTNAM,

River Falls, Wis.

Dear Sir:—I delayed answering your letter until I had read the June number of the Rural Bee-Keeper, and must say as a Bee-Keeper of 22 years' experience I am more than pleased with it, regardless of the assertions of some that the publishing in this line was already overdone, and if the improvements continue it will certainly be second to none within its first year of publication. I consider the June number alone worth several years' subscriptions, to any practical live bee-keeper and will say let the good work go on and on. You have a good field, and the fact of our having a Bee Journal published in our own state, should be a lasting stimulant to all bee-keepers of Wisconsin and the Northwest, and 50c certainly cannot be invested to better advantage. You may send me some more blanks. Yours truly,

ELIAS FOX.

Send 10c for three back numbers or 50c for one year.

Free Trips California and the Southwest

"The Earth" is a new monthly journal, describing life in the Great Southwest.

It is the best of its class. It contains timely articles of interest to those who wish to get a home or establish a business in the most prosperous section of our country. It is attractively illustrated with pictures "that talk." It is bright, truthful, instructive and persuasive.

Like all new publications, "The Earth" wishes to increase its circulation, and offers the following very attractive prizes to persons getting up clubs. The only condition is that you become a subscriber yourself.

LIST OF PRIZES

First Prize—To the person sending the largest list of paid subscribers, a free round-trip ticket, Chicago to Los Angeles or San Francisco.

Second Prize—For the second largest list, a free round-trip ticket, Chicago to Grand Canyon of Arizona.

Third Prize—For the third largest list, a free round-trip ticket, Chicago to Phoenix, Ariz.

Fourth Prize—For the fourth largest list, a free round-trip ticket, Chicago to El Paso, Texas.

Fifth Prize—For the fifth largest list, a free round-trip ticket, Chicago to Galveston, Texas.

Sixth Prize—For the sixth largest list, a free round-trip ticket, Chicago to Denver, Colo.

Seventh Prize—For the seventh largest list, a free round-trip ticket, Chicago to Carlsbad, N. M.

Eighth Prize—For the eighth largest list, a free round-trip ticket, Chicago to Oklahoma City, Oklahoma.

Ninth Prize—For the ninth largest list, a free round-trip ticket, Chicago to Garden City, Kan.

Tenth Prize—For the tenth largest list, a free round-trip ticket, Chicago to Kansas City, Mo.

Eleventh to Fifteenth Prizes—For the eleventh, twelfth, thirteenth, fourteenth and fifteenth largest lists, 500 miles of railroad transportation.

All of the above transportation good over such road as we designate, and available for use until June 30, 1905. Tickets to be non-transferable and used only by the prize-winners.

If any winners of prizes one to ten, inclusive, should prefer a different trip than the one offered, an equivalent number of miles will be issued. Lists to be closed December 31, 1904.

Let us register your name as entering the competition. Send for sample copies to canvass with. The work should be easy. The price of a yearly subscription to "The Earth" is only 25 cents. No trouble to get a large list at that price by a few hours' work each week among your neighbors. No minimum requirement as to the number of subscribers you get. The prizes will be paid regardless of results.

Write To-Day to The Earth,
1118 Railway Exchange, Chicago.

Cut out and mail this coupon.

THE EARTH,
1118 Railway Exchange, Chicago:

Enclosed find 25 cents for one year's subscription to "The Earth."

Please enter my name in your Prize Subscription Contest, sending me necessary blanks.

Name .....

Street No. .....

City and State .....

HIGH GRADE of Italian Queens at living prices. Write for price list.
J. F. Michael, Winchester, Ind.

CHUNK COMB honey wanted. Give particulars as to quantity, price, package, time you ship. E. A. HEARN, Salisbury, Md.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

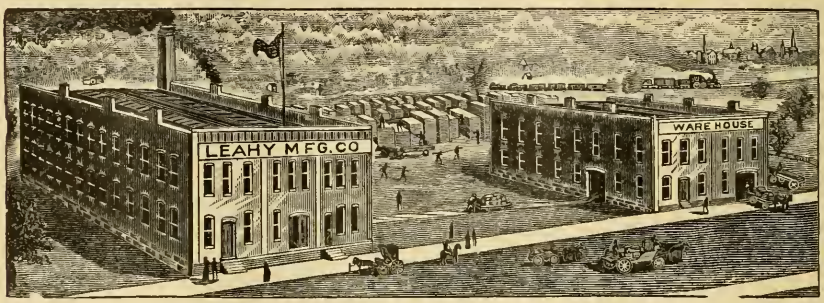
Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—Honey stock is well cleaned up, and demand good. Beeswax in good demand. We quote as follows:—No.1 white, $2 50 a case; No.1 amber, $2.25 a case; White extracted, 6½c; amber, 6c; beeswax, 30c.

WALKER-BREWSTER GROCER CO.,
May 3 423 Walnut St. Kansas City, Mo

CINCINNATI—The supply of honey at the present time is limited, with but moderate demand. New honey is beginning to arrive.

We quote our market today as follows,—Amber extracted in barrels and cans, 5¼ to 6½c. White clover extracted, 6½ to 8c; comb honey (demand limited). 13 to 14c for fancy and No. 1. Beeswax, 29c.

THE FRED W. MUTH CO.
July 29 Cincinnati, Ohio.

BUFFALO.—New honey arriving moderately, but demand is light. Don't advise shipping before September or October. Too much fruit Now. We quote as follows:—Fancy white, 14 to 15c; No. 1 white, 12 to 13c; fancy amber, 11 to 12c; No. 1 amber, 9 to 10c; fancy dark, 8 to 9c; No. 1 dark, 7 to 8c; beeswax, 28 to 30c.

BATTERSON & CO.
July 27 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—There has been absolutely no call during the past two weeks for either extracted or comb honey. Quite a lot of new goods from the South has been offered, but not enough sales to fix a market price. Everybody is expectantly waiting to see what the outcome will be in the way of production. Some parts of York state have quite a crop, while other parts have little or none. Several large lots of extracted honey have arrived in our market. We quote as follows:—Fancy white, 7 to 8c; amber, 6 to 7c; Southern, 5½ to 6c; beeswax, 26c. We are producers of honey and do not handle on commission.

WM. A. SELSER,
July 29 10 Vine St. Philadelphia, Pa.

CHICAGO—The market has an over supply of comb honey, very little of which will pass as No. 1 grade—price is 11 to 12c per pound, and off-grades at corresponding values Extracted at 6 to 7c per pound for best grades of white; amber colors, 5 to 6c; beeswax, 28 to 30c.

R. A. BURNETT & Co.,
July 27 199 So. Water St., Chicago, Ills.

NEW YORK—Very little demand for comb. Extracted in fairly good demand, with plenty of supply. Beeswax is dull and declining. We quote as follows:—Fancy white, 13c; No. 1 white. 12c; fancy amber, 10 to 11c; white extracted, 6½ to 7c; amber extracted, 5 to 5½c; beeswax, 28 to 29c.

HILDRETH & SEGELKEN,
265 & 267 Greenwich St., Cor. Murray St.
July 30 New York.

CINCINNATI, OHIO.—The sales of comb honey which are now being made, amount to but very little; Some fancy comb left from last season finds sale at 12½ to 13½c. The new is just beginning to be offered, and small lots are coming in. Extracted for manufacturing purposes, finds a fair demand. I. quote amber in barrels, 5¼ to 5½c; water white alfalfa, 6½c. Extra fancy white clover. 7½c; beeswax, 28c.

C. H. W. WEBER,
July 27 Cincinnati, Ohio.

CHICAGO—With the past week we have had a very good trade on comb honey, which is increasing daily, and, if producers have any new honey ready for shipment, we advise letting it come forward at once, and no doubt can dispose of it so as to net them handsome returns.

Trade on extracted honey is inclined to be somewhat slow yet, but we look to see trade on this commodity improve after the first of the month. We quote as follows:—Fancy white, 12½ to 13c; No. 1 white, 11 to 12c; white extracted, 6 to 7c; amber extracted, 5 to 6c; beeswax, 28 to 30c.

S. T. FISH & CO.,
July 27 189 So. Water St., Chicago, Ills

KANSAS CITY, MO.—The arrivals of new honey are increasing, and demand seems a little better each week; dark honey sells slowly at present, also extracted, but with cooler weather we look for the trade on amber and extracted to be better. We quote as follows:—Fancy white, $2.75 per case; No. 1 white, $2.75; beeswax, 30c per pound.

C. C. CLEMONS & CO.
July 27 Kansas City, Mo.

ALBANY, N. Y —The honey market has not fairly opened up yet. Receipts very light, and very little demand in August. Would advise bee-keepers to hold stock until September or October when there is a demand. Some white comb is coming in, and sells at 15 to 16c; extracted clover, 7c for white, and 6c for mixed or dark.

H. N. WRIGHT,
Wholesale Commission,
July 29 Albany, N. Y.



BOOKLETS

—FOR—

BEE-KEEPERS

Modern Queen Rearing

By Geo. W. Phillips, foreman of the queen rearing yards of The A. I. Root Company. Anyone can supply his own apiary with the best queens at a little cost. This booklet gives simple, complete directions for doing so. All can understand it. The method itself is the best. It is no particular "system" of one man but embodies the best in them all. An expert can gain information from this book while the novice will find nothing but what he can understand and do.

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MEDINA, OHIO



SEPTEMBER, 1904



At Flint, Michigan—$1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

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Flint, Michigan, Sept. 15, 1904

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Gleanings, (new)	($1.00)	$1 75
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BEE-KEEPERS---ATTENTION ! ! !

Are you going to buy bees? Are you going to locate in Texas? We make a specialty of nuclei and full colonies of bees for shipment, in any quantity, anywhere, at all seasons of the year. Car lots a specialty. We are selling agents for a large number of colonies of bees, in quantity and locations to suit purchasers. This is a great bee country and we can supply you the bees at satisfactory prices. If you wish to buy a farm or ranch with the bees very likely we can have it for you; write us your wants.

We are Southwestern managers for The W. T. Falconer Manufacturing Company, and will carry a full line of Bee-Keepers' supplies at FACTORY PRICES. Let us figure with you before you buy your supplies. Order early and secure the cash discounts. We will carry a line of honey cans in season, and buy your honey crop; we also want all the beeswax we can get at the highest market prices. OUR AIM—To supply the bee-keeper his wants and buy his products in return. Correspondence in Spanish and German a specialty.

THE HYDE BEE SUPPLY CO.,
H. H. Hyde, Pres. and Mgr.,
129 N. Flores St,,
SAN ANTONIO, TEXAS.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.....	130	W. Va....	172
Iowa..	800	N. H. ...	158	Wash.....	128
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

This is the man who publishes the only independent Bee Journal in the West.



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Editor and Publisher
WESTERN BEE JOURNAL
103 W. Seventh St.
Hanford, Cal.

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser; and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,

SPROUT BROOK, N. Y

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids
Agents for Michigan

3-04-10t

IT PAYS to send your orders a distance of 1,000 miles —FOR— BEE-SUPPLIES to R. H. SCHMIDT CO., Sheboygan, Wis.

LARGE, HEALTHY, PROLIFIC,

Beautiful Italian Queens sent promptly by return mail at only **50 cts each.** Safe arrival and Satisfaction guaranteed. J. W. K. SHAW, & CO.

7-04-tf Loreauville, La.

Please mention the Review.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

BEWARE
WHERE YOU BUY YOUR
BEEWARE
LEWIS WATERTOWN, WIS U.S.A.
MAKES THE FINEST

Send for Catalog
THE G. B. LEWIS CO.
Watertown, Wis.
U. S. A.

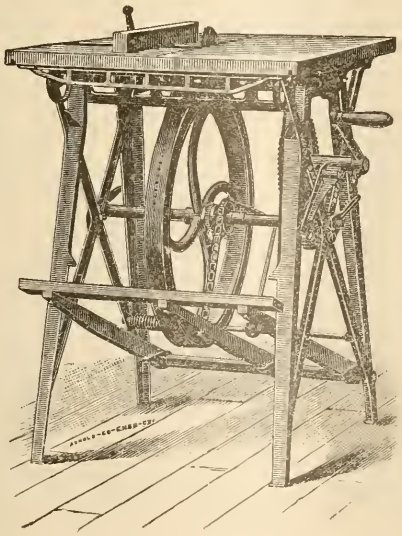
Make Your Own Hives.

Bee - Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,
384 Ruby St.,
Rockford, Ills.
4-04-19t



Get Shipping Cases

You can do it now. Maybe when you'll **need** them you won't be able to do it.

One-piece covers without extra charge.

If you prefer them you can have the one-piece covers without any additional cost. If you want them you'll have to mention the fact, though.

The fire which gutted other parts of our power building didn't affect our ability to get out orders. It will pay you to write us about goods that are discolored by smoke and water.

Minnesota Bee-Keepers' Supply Mfg. Co.
Minneapolis, Minn.

Are you looking for

QUEENS?



If so I can furnish you queens of the following races by return mail:

Three- and five-banded Italians, Cyprians, Holy Lands, Carniolans and Albinos.

Untested, of either race, 75c each; Select, Untested, $1.00 each; six for $4.00; twelve for $8.00; tested, of either race, $2.00 each; six for $10.00; one dozen, $18.00; Breeders, $4.50 each. Safe arrival guaranteed.

B. H. STANLEY,
7-04-tf Beeville, Texas.

WANTED: To sell my farm of 30 acres, young orchard of Apples and Peaches, a few Pears and Plums. Two miles from A. I. Root's ranch. Terms on application. D. B. LINDSEY,
8-04-3t Traverse City, Mich.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold.
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

VIRGINIA QUEENS.

Italian Queens, secured by years of selection from a cross between Red Clover strains and the Superior Stock furnished by W. Z. Hutchinson. No better bees are to be had anywhere.

Untested queens, large, vigorous and prolific, only 75 cts. After June 15th, only 65 cts. Tested queens, $1.00; after June 15th., 75 cts.

Write for discounts on large orders.

CHAS. KOEPPEN,
Fredericksburg, Virginia.
6-04-tf.



Men Who Secured the Passage of Ohio's Foul Brood Law.

E. A. PAINTER F. W. MUTH D. R. HERRICK

JNO. C. FROHLIGER WM. J. GILLILAND

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, SEPT. 15, 1904. NO. 9.

Selling 20,000 Pounds Extracted Honey at 12 Cents.

BY H. G. AHLERS.

TO introduce myself to the readers of the Review I must make the following explanation: I was born and raised one mile from my present residence. I lived in Louisiana about sixteen years. I kept bees, and sold honey there, more or less, most of the time; with a financial *loss* all the time. May 15th, 1899, I shipped, by express, 26 ten-frame cases, mostly sealed brood, young bees and queens, from New Orleans, to Wisconsin. From these bees I took nearly 3,000 pounds extracted honey in June and July. I have since then increased my bees to only 54 colonies. I have averaged 100 pounds of extracted honey per colony, per annum.

HOW THE TRADE WAS STARTED.

In the fall of 1899, while going to the State fair at Milwaukee, I took along, in a satchel, twelve Mason quart jars of honey. Some relatives sold them for me, while I waited, at 30c without, or 35c with, the jar. Most of the jars were exchanged. When I arrived at home I received a request by mail to send in "some more of that nice honey." Many of the neighbors wanted some because, they declared, it was much better than Johnson's or Smith's honey. I sent in several hundred pounds to these relatives. The neighbors got the honey and paid 10 cents per pound for it. The honey was sent in by one of my neighbors, who supplied customers with butter. I paid him one cent per pound. He returned all empty jars and crocks. In August and September, 1900, this same neighbor hauled in over 1,000 pounds for me. I sold this honey myself, mostly in Mason quarts. Orders were taken for crocks containing ten or twenty pounds.

HOW THE BUSINESS GREW.

In 1901 I took 6,000 pounds from 31 colonies. I then bought a good horse, a platform wagon nine feet long (a regular milk wagon) with extra side-

boards and end-board. The side-boards contained the following lettering: "Pure Honey, H. C. Ahlers, West Bend, Wis." The tail-board had the one word—"Honig"—in German letters. This caused some merriment, but it drew the attention of the public to my outfit.

This wagon was guaranteed to carry 1,000 pounds, but orders came in so fast that I was compelled to overload, and I had numerous break-downs. I live 30 miles from Milwaukee. My boy (then 14) and I would leave home sometime after midnight, get to our destination about eight to ten o'clock A. M., and deliver most of the load the same day. Next morning we would finish and get back home before night.

I found the crocks too heavy, and there always was some breakage, so I started the season with the ten-and twenty-pound tin, lard pails. They are made with special covers for honey, and have the words: "Pure Extracted Honey," stamped in them. I put these pails up with 13 and 25 pounds, respectfully, of honey. Pails were weighed in, as if they were honey. I always pay 10 and 15 cents for the empties if returned in good condition. There is practically no tare. I very seldom get back the first few pails sold to a party. They are so handy for the children to carry water, or the boys take it when they go fishing. This season about ten per cent. were returned. Most of this crop was sold right on the street. People were so anxious to get some of my honey that at times I have had a dozen women at my wagon, all saying, "Give me a pail too," or "I want an extra one for my sister." In this way I have taken in thirty dollars at a single stop. After selling about three loads, our customers and best friends had been mostly supplied.

DRUMMING UP TRADE—HOW TO DO IT.

We now had to look for more trade. I took one side of the street, my boy took the other, each with a 13-pound pail. I usually go to the side, or rear door. When opened I set down my pail (closed) and say: "My name is Ahlers. I suppose you have heard of me. I am from West Bend. I am related to Mr. Engel, on 20th street. I have been supplying this neighborhood with honey. Mrs. Erler, across the way, has bought 25 pounds for herself, ordered two pails for her sister, one for her mother, and I have left two pails for friends. I want you to taste this honey."—at the same time I pull out a sheet of a peach basket, and break off a splint (it is very plain that no one has had this in his mouth), take the cover off the pail, and hold it up for convenience. While she is tasting the honey I usually give her about the following: "This honey is not only strictly pure, but it is the best that money can buy." I then hand her a honey leaflet, and read to her: "I guarantee all honey sold by me as strictly pure, and to give entire satisfaction, or money cheerfully refunded." I then say: "Keep this leaflet. It gives you the most reliable cooking receipts with honey. It gives you such information as every consumer of honey should know. Besides, you always have my full address when you want more honey."

She may not have the money today. Then I am glad to take her order for a pail to be delivered in a week or two, as the balance of the load is mostly ordered anyway. She may take a quart "just to try it." I never put down an order for less than one pail. The quarts are put up just for trial orders, and street trade. Some customers order a dozen quarts.

DON'T ASK PEOPLE TO "BUY."

I *never* ask people, "Do you want to buy some nice honey?" After making the necessary explanation, I *always* tell them I want to *sell* them some of the best honey it has ever been their pleasure to taste. I always have,

and always express, the very fullest confidence in anything I have for sale.

DRESS NEATLY, AND ADVERTISE.

I wear a ten-dollar business suit, a pair of light shoes, kept as bright as circumstances will permit, a three-dollar soft hat, appropriate for farmers to wear, a good shirt, and always a *tie*. I advertise in three or four daily papers during the selling season. I use the best stationery, neatly printed. I use printed shipping tags on f. o. b. orders.

SAVING TIME AND SECURING ORDERS BY MAIL.

When a lady starts something like this: "Oh! I have a good friend who lives on Thirty-third Street, between Walnut and Galeno, by the name of Schleifenberger. She lives about the middle of the block, in a little brown house—you can't miss it," I say: "Hold on! Our time is too valuable, with two men and two horses. Expenses are too high. Please give her this postal. I should be pleased to get her order. If it is mailed this week, the honey will be delivered on our next trip." I carry with me a supply of postals with my address on one side, and the following on the other:

Sir:

Send us, within two weeks, ——— pounds of honey.

———

N. B. All orders filled, or parties notified when supply gives out.

Before my residence I have a neat sign worded: "Choicest honey for sale here." I have my mail box painted white with my name on either side. I put an occasional adv. in our local papers. I make it a point to advertise my business all the time, and to be hammering at the fact that *no better honey can be bought*. I am often addressed: "Are you the man who advertises in such a paper? I have been wanting to write you. Take my order."

This season we did not *solicit* one single order in a house canvass, except customers, and such places as customers sent us.

SELLING 20,500 POUNDS OF HONEY AT RETAIL.

My crop was 8,000 pounds from 42 colonies, and I bought enough more to make it 20,500 pounds. We made thirteen trips with a good team of roadsters, a strong wagon with an eleven-foot box, two feet high, lettered as usual. There was a good cushion with a back rest—*high* enough. A high back rest is very essential to health, and adds greatly to one's comfort on such a long trip. The last six loads were sold at 12 cents per pound! In the future, all my honey will be sold at that price to consumers, delivered in Milwaukee. I will deliver to stores,, in quantities over 200 pounds, at ten cents; also to my home trade. I have been buying, as far as possible, each year, from the same parties. I paid this season from 6½ to 7½ cents f. o. b.

THE SECRET OF GETTING LARGE ORDERS.

I have set my mark for next season to sell 30,000 pounds. People cannot buy honey from me at any time. If they want the best honey they must supply themselves before cold weather sets in. This is our secret for getting such large orders. Our honey is the *best*, and they can't get any more, *anywhere*, after about Nov. 15th.

In Milwaukee we board with private people. We leave the wagon on a street corner, with the tail board toward a very much traveled street car line. When we get ready to go home we leave any unsold honey at this place; and we allow the party ten per cent. for selling. He keeps a printing office and displays the honey in the window. He has sold over one thousand pounds. Had we been able to supply him from the start, over two thousand pounds could have been sold there.

EXTRACTING, STORING AND PUTTING UP FOR THE MARKET.

I extract my own honey when it is nearly all capped; store it upstairs in open, waxed, alcohol barrels. These barrels are on stands sixteen inches high. The honey is drawn off through the largest size molasses gate. I insert my gate about two inches from the bottom. I put my honey in from the extractor without straining. Anything heavy will settle to the bottom. Light matter will remain on top. I draw off the honey as I need it. When a barrel begins to run thin or dirty, I leave the balance until the last of the season. All honey is heated from 140 to 160 degrees in the old fashioned way, in four enameled kettles, on the kitchen stove. I have two galvanized tanks, holding nine hundred pounds each. I generally use cheese cloth, and, for some honey, a finer grade of goods for a strainer. This is held over the top with an iron hoop that just fits. From these tanks the honey is also drawn off through a large sized molasses gate, an inch from the bottom. The tanks are on stands 18 inches high. Platform scales set under the gate, a lid is placed on the scales, and the honey weighed right into the tin pails. Quart jars are not weighed. If properly filled they will hold three pounds. The quarts are sold at forty cents. If my own jar is returned at any time I pay five cents for it. I now use white flint jars. By ordering ten gross they cost me $5. per gross at the factory of Ball Bros., at Muncie, Ind. The tin pails are bought from the American Can Co., Chicago, Ill. The last lot cost me, ten-pound honey pail, at $9.75 per hundred, twenty-pound honey pail, $18.00 per hundred at factory.

Forty-eight hours after the honey has been heated all air bubbles and foam have come to the top. It then runs fast enough through the gate so that I can put up 2,000 pounds in a day.

All my honey is neatly labeled with a small label, printed in black, and reads as follows: "Choicest Linden Honey from the Apiaries of ———, and Choicest Clover Honey." I sell only strictly pure, *white*, clover honey for clover. I mix all the way to fifty per cent. clover honey with basswood, to take away the tartness. I consider this the principal point of success in my entire honey business. My label does not read Strictly pure Linden, but "Choicest Linden."

I create the impression that I produce all honey sold by me, but I do not *say so*. A party will say: "You must have an awful lot of bees." I answer: "When I get done I will have 20,000 pounds of honey sold." It is not always wise to *tell* even the truth, but I make it a point to tell no *lies*.

It will cost me nearly one hundred dollars for advertising, stationery and reading matter for 1903; yet, after taking off *all* expenses, I have the sum of $800 for my own labor and the team, from bees and honey alone.

I have a thirty-acre farm, and am working into small fruit. I sell the eggs from 120 hens to several honey customers, at a premium of five cents per dozen above wholesale quotations. I sold a load of potatoes to customers at a cent and a half a pound in October. It is very easy to sell any *good* article to a *well-pleased* honey-customer, at a good price. Apparently, the honey puts them in a sweet humor. Young chickens are sold to my customers. Old hens are sold to the store.

When I shipped up those bees from New Orleans I took the best combs of brood, and the best young queens from 115 colonies, and abandoned the balance. I couldn't sell them at *any price*. Since then, I understand, some were burned, high water took some, and those that the darkies left were killed out by foul brood.

West Bend, Wis., Dec. 15, 1903.

The Influence of Moisture in the Wintering of Bees.

BY C. F. SMITH.

LAST January the Review published an excellent article by Mr. C. F. Smith, of Cheboygan, Michigan, on the influence of moisture and ventilation in wintering of bees. Quite a number of criticisms and queries came to both Mr. Smith and the Review after the appearance of the article, but I thought best not to publish any of them until this fall, when they would be more seasonable. Among others, Mr. H. A. Bushby, of Scandia, Kansas, wrote and asked a number of questions in regard to the building and management of a cellar. Mr. Smith wrote him a long letter in reply, and, before sending it to Mr. Bushby, he sent it to me that I might see it. I thought it good enough to print in the Review, and, as the season is now approaching when we must begin to prepare for winter, I give the letter entire.—ED. REVIEW.

CHEBOYGAN, Mich., Feb. 14, 1904.

Mr. H. A. Bushby,

SCANDIA, Kan.

Dear Sir.—Yours of the 8th reached me last night. I am glad you wrote me the questions, for the article I wrote for the Review was intended for advanced apiarists. If I were keeping bees in your latitude (as I was once) and were contemplating building a cellar for bees only, there are two things I would consider: 1st, does the honey ever candy in the comb? 2nd, is it ever so thin that it diseases the bees?

BEES CONFINED SIX MONTHS, YET HEALTHY.

You speak of great extremes of temperature and sudden changes, also of great loss of bees and stores, caused by fruitless flight, and squads of bees freezing solid. In a sudden change, bees often get caught in outside combs and become chilled. If bees pass through six or seven months here on the Straits of Mackinac, in a house-cellar at 40 to 60 degrees, with no flight, (there is often a period of six months that they can't fly if they *are* out) with no greater loss than six or eight pounds of honey or syrup, and practically no bees, and keep clean, healthy and quiet to the last, I see no reason why they can't in Kansas, providing the honey or syrup is good. If your alfalfa honey candies above the bees, keep the cellar very warm (say 60 to 75 degrees) so warm that the bees will be compelled to spread out over the honey and thus keep it dry and warm. For this condition, an underground cellar, as a matter of economy in heat and fuel saving, might be best. But if your bees often get a lot of thin, unripe and unsealed honey, I would build a cellar above ground. Build an inner and outer door of double thickness with tarred paper in the center of each door, and inside of inside door, and pack the roof well with sawdust or chaff.

Put in two eight-inch ventilators with dampers.

You need no floor or window. Put an inch gas-pipe through the south or east wall five feet from the ground. I would extract the unripe honey if practical, but if not, keep the temperature high. Allow the great excess of moisture to pass freely from the hives, and also from the cellar. If honey will ripen in September at a daily temperature of 75 degrees, and nightly temperature of 40 to 50 degrees, why wouldn't it ripen in a cellar at a tem-

perature of 60 to 80 degrees? It would; but most bee-men confine the evaporated moisture in the hive, and instead of ripening, the honey absorbs more moisture; and what isn't absorbed, condenses on the top-board, and falls back on bees and honey; or else, if the bees are strong and will consume four pounds of honey per month, with a cellar at 40 degrees, the moisture is driven to the cold corners and sides, where it condenses and runs down and out; that is, what doesn't soak into the wood, dead bees, and form in mould on the combs.

One of the oldest bee-men in the State, who has spent a life-time inventing things for bee-men, has finally got an underground cellar so tight that not an ounce of water can enter, yet he makes absolutely no provision, that I know of, for ridding the hives of a ton of water, except as I have indicated, and what passes off through three big ventilators. H. R. Boardman (Sept. Review, 1903) winters his bees in a big cellar above ground without ventilators, but with absorbing sawdust walls and artificial heat. Ira Barber (Feb. and May Review, 1993,) winters bees in a manner satisfactory to him in an ordinary house-cellar, maintaining a high temperature by crowding; while Doolittle can winter his bees in a cellar on four pounds of honey. All these men have trouble towards spring, unless it is Doolittle, whose hives are unpainted and so old that they are like a sponge, so that the moisture readily passes through. I get the same results in painted hives with the covers off. If Mr. Barber would leave the covers off, his bees would not get uneasy and roar. Mr. Bingham could winter his colonies on four pounds each, instead of twenty, if he would

LEAVE THE COVERS OFF.

In hives without covers, the moisture not only all passes off, but the bees have perfect control of the heat; and we can permit a very much greater variation of cellar temperatures; in fact, I don't hesitate to say that a strong colony would winter perfectly, clustered on the outside of a two-bushel bag, with ten pounds of honey or syrup in it, in a dark cellar where the temperature ranged anywhere from 40 to 100 degrees.

Build your cellar just large enough to hold the bees—say 8 x 10 inside for 125 colonies. If their feed is in a normal condition, place one or two thicknesses of burlap under each top-board in October; in a week or two they will lie close to the frames, when the top-board is removed. Put them in early, say November 1, (and I honestly believe I ought to say October 1, for good reasons) *leaving every cover out.* If there is much uncapped honey, I would cut up old blankets for additional covering, depending on how warm the repository is kept, and, if it dropped to 30 degrees very often I'd put a coal stove in it. A low flat car covered with straw could be used for running the bees in from the outside, on which they could be left. In that case you would want a plank track and a 4 x 6-6 door. Leave entrances open and set hives five or six inches apart, tiered up. Flatten the small end of a broom handle, fasten on a thermometer and shove it through the gas-pipe. Frequent flights are a damage, unless the bees become diseased, and I would not move them out then until half of them began to daub the entrances, and would move them back in a day or two.

My mention of feeding with a spoon was hardly intended to be the very *best* way, only to show what *can be* done in an extremity, or on a bet.

Where honey is cheap, the best way to feed is to slip in a frame of sealed honey in October. I fed some last fall in division-board-feeders, and think it could be done all winter; but in case you get a few in the cellar that are

short, set them on top of the others. The sugar candy so highly recommended by Editors Hutchinson and Abbott is certainly good; or you can feed as I am feeding ten of mine now, by putting in a case of low grade section honey each month on the frames under the cloth. "And leave the edges of the cloth up?" Yes. "How cold is your cellar?" 38 to 40 degrees "the coldest winter ever known here." But we hatch our chicks in the cellar in March and April and the two big lamps raise the temperature 10 to 15 degrees.

Don't move out bees until the willow blooms. One more word about feeding. I would rather feed my bees every week by pouring one-fourth lb. of honey or syrup on the burlap directly over the cluster than to go back to the old way of feeding 30 pounds in the the fall and have the bees all starve on a hive full of candied stores. If your bees don't fly, 10 pounds is enough for winter, and if your spring bloom is continuous, you won't have to feed any in the spring. You can tell by watching closely for ejected brood. Leave the burlaps on two or three weeks after setting out, then put them away for next winter.

The ventilators are principally for carrying off the moisture that *comes from the bees*, and partly for admitting pure air, but if they don't carry off all the moisture and you find an inch or two of frost on the stone walls, don't be scared, as it will do no harm there; in fact, a foot or two of it would do the bees good by helping to keep them warm,—just as a snowbank would. Some say that stone walls are damp. This is not true. The "sweat" or frost on stone walls is the condensed moisture from the room itself, and there is actually less moisture in such a room than if the walls were of a more non-conducting material. In the deep snowbank, the snow is soon melted five or six inches around a strong colony, the water going back into the snow, and, if it can escape, the moisture from the bees goes there too, and the bees in this little icebound cavern keep warm and dry, for the air of their little 2 x 2 room is drier than that of any kitchen in the world.

C. F. SMITH.

Some Novel Methods of Selling Honey to Grocers.

BY FRED W. MUTH.

TO create, or stimulate, a demand for honey, requires a thorough knowledge of bees and honey, the art of true salesmanship, and an abundant reserve force of lung power. If you do not believe this, give it a trial, and before many moons you will have learned that the above assertion is naught but correct.

Still, it is a great consolation to know and to feel that difficulties were made to be overcome, and are brought to the light of day in order to give our ambition and determination an opportunity to overshadow them.

For that very reason I am in the honey-business as a specialty, and will endeavor to give a few ideas and argu-

ments used, as I travel from grocery to grocery, in selling the finest honey on earth, "Muth's."

WHAT MAY BE ACCOMPLISHED BY TACT AND PERSEVERANCE.

Some time ago I stepped into a retail grocery conducted by a lady. 'Twas in the forenoon, and after a pleasant "Good Morning," opened my sample case. At a glance I could see that the lady would say me "Nay." After having spent one hour's good argument, trying all in my power to persuade her to favor me with an order, I failed. Now I always aim to leave the trade in good spirits, and a pleasant humor, so that I will always be welcome when in the neighborhood.

As it happened the following week I called on her again, and to my dismay, found her in about the same mood. I felt as though I simply *must* change her mind. In a nice way I said to her, "Mrs. Smith, if I were to say to you, within two squares from here, in the street, lies a five-cent-piece; if you go there at once, you may pick it up; would you leave your store and walk two squares to pick up that five cent piece?" She answered "Yes," for it was only natural that she would. "Now, Mrs. Smith, suppose you had a bottle of the finest honey on earth upon your counter, that cost you 17 cents, and sells for 25 cents, and some one, we'll say a lady, prompted by mere curiosity, picks up this bottle; now if you would say to her, 'Do your folks like honey?' (nine out of ten persons do), and make it plain to her how much cheaper honey is than creamery butter, which I believe you are selling at 35 cents today, I venture to say you will sell that bottle of honey then and there. You said you would walk two blocks for five cents, and here you may have eight cents, (profit on the bottle of honey) without setting foot outside of your door, besides having pleased a patron." Well, with all this talking, I had not succeeded in inducing Mrs. Smith to think as I did. She said she had "no calls for honey," nor could she sell it in her neighborhood.

After some little reflection, I asked permission to *prove* that honey *could* be sold in her immediate neighborhood. I placed a bottle of honey on the floor near the door, which was closed. In due time, a young lady, of about 18, opened the door, and as she did so, noticed she had knocked something over. Naturally she raised the bottle from the floor. I advanced immediately and said, "Young lady, may I ask, do you folks eat honey at your home?" She replied in the affirmative. "Whose honey do you buy, and where do you get it?" To my delight she answered, "We buy Muth's honey over at Meyer's store," (nearby grocer). "Well," I asked, "why don't you buy it from Mrs. Smith?" At this point I was rescued, for she said, "I knew Mrs. Smith *does not sell it.*" To make a long story short, the young lady promised to buy honey from Mrs. Smith, if she would place some in her store.

I gained my point, for I sold Mrs. Smith six dozen bottles of honey.

'Tis very strange how often a real good thing or idea is presented to us, and not infrequently even laid within easy reach, and yet how very long we are in accepting it, and when we do, 'tis oftimes with extreme reluctance.

THE ADVERTISING EFFECT OF A STORE-WINDOW DISPLAY.

One day last fall, I stepped into the largest and finest retail grocery in Cincinnati. While waiting to see the buyer, I looked around the store, and wondered why there was not more honey sold in a store of this kind. Surely there ought to be a large demand for it. In an instant it occurred to me that it was the proprietor I wanted to see, not the buyer, and consequently repaired to the office on the second floor, and presented my card.

Now, Mr. Peebles has good judgment, notwithstanding that he makes up his mind quick as a flash. He is a very busy man, but never too busy to give hearing to any and every one who has a proposition to offer, although to receive favor, one must be short, sharp and to the point.

As he offered me a chair, I said, "Mr. Peebles, you do not sell sufficient honey for the nice trade you enjoy, and I have an idea which I offer to you first. It will be entirely new, and at the same time interesting and instructive to a marked degree. 'Peebles' show window will be the talk of the city." Naturally, he wanted to know all about it. After I had finished, he immediately decided that I proceed.

Well, the following Saturday night, a professional window-dresser arranged our display of bees and honey. There were comb and bottled honey, old fashioned straw hives, or straw skeps, such as our forefathers had, and observation hives with sides of glass containing active working bees, which afforded passers-by an opportunity to see exactly how the busy little bee works tirelessly and industriously in its home. At 11:30 P. M. all was complete.

The display was indeed arranged very artistically. The following day, Sunday, vast numbers of people crowded before the window, and pedestrians squares distant were attracted, and all came to see the display of fine honey, and the active working of the bees. This state of curiosity prevailed through the entire week.

In the store, a demonstration sale of honey was going on, which attracted crowds of people at all times.

The display certainly proved to be a decided success, and the time was extended to two weeks, although we had bargained for only one. All who saw it, including the proprietor, declared it was the best display ever seen at that store or anywhere in the city, and it must have been, for it has done us a world of good, in effecting a marked increase in the sale of honey.

CINCINNATI, OHIO, Mar. 22, 1904.

Some Chatty, Snappy Criticisms On Past Articles.

BY S. A. NIVER.

SUPERIOR, WIS., July 8, 1904.

Friend Hutchinson—Something is lacking to make my life perfect, up here in this out-of-the-way-corner of Uncle Sam's domains, and it seems to be a total absence of bee-keepers. At home in old Groton we used to have an impromptu convention every day or two, as the bee men came to the factory for supplies.

Now, here is a grist of bee papers, with lots of points, which I want to comment on, and agree with, "or agree to disagree," and, like poor old Robinson Crusoe, "from the centre all 'round to the sea," yours truly is the only bee crank in evidence.

A CHANCE FOR MIGRATORY BEE-KEEPING.

At the same time there is *more* and *nicer* white clover to the square rod, than in any other locality that has thus far come under my eye. Just clover, clover, all around, and not a

bee to drink. If some fool bee-keeper would get through the white clover season, say, in central Illinois, about July 10th, and then ship his bees here for a six-weeks-flow of clear clover, then ship back for winter, he would roll up a lot of honey.

SELLING HONEY TOO CHEAP AT RETAIL.

But I seized the quill to rake over the articles in the bee journals, and will begin with Gen. Manager France—14,000 lbs. into 3,000 poor victims. Pretty good average, Eh? But—well; that's all right, only 8c in "store pay" delivered in 2-lb. and 3-lb. pails, and ten off for cash, when wholesale quotations are 7c, hardly leaves margin enough for the trouble—or that's the way it looks to the undersigned.

THE ADVANTAGE OF LARGE EXTRACTORS.

The next article is good: Townsend's expeditious extracting, only he won't break Harry Howe's record in many a long day, with his little toy extractor. He must turn the handle just as many times for two combs, as for four, and even a four-frame machine is ancient history with "we-uns." Miles Morton built an *eight*-frame extractor, which is just a delight to use. Only have to turn one-fourth as many turns to the handle, stops with a brake, and starts by a push on the reel with the left hand, instead of a big tug at the handle.

GETTING BEES OFF THE COMBS.

Another wrinkle, which I never have seen mentioned in the Journals, was our method of getting bees off the combs. We laid a tin cover (which was a flat cover with tin roof and inch cleats) on the ground beside the hive, bottom upwards, that is, cleats on top, laid a Porter bee escape (inserted in a board the size of the hive) on the cover, and set the super of bees and honey on that outfit, putting a set of empty combs on the hive in place of super just removed. This was done to all the colonies to be attended to that day, done the first thing upon arriving at the yard, and by the time the last colony was fixed that way, the first one was partly emptied of bees; and what remained were badly demoralized and ready to be shook, without objecting, and in a short time each super would be practically clear of bees.

Of course this took extra escape-boards, covers, and empty combs, but good tools, and plenty of them, makes easy and rapid work. One beauty of this system is, the bees don't get cross, as they do with the brush-broom, biff, bang way.

The next noticeable article is your "expert advice" department. Say, W.Z., do you remember "Puck's" advice to those about to be marrried? It was "Don't."

ADVANTAGE OF PLAIN SECTIONS.

But, talking along this line, did you notice August Bartz's advice to comb honey producers generally, in American Bee Journal, page 454. I met Bartz while buying honey in 1902. He gave me that idea of a "layer of bees" on top of the sections, in place of "air" as Dr. Miller says, as a good thing to get sections finished. You may remember I put that into the question box at the Chicago Northwestern convention, but no one agreed with Bartz, if I remember correctly. But what do you think of the "roast" he gives to tall sections and fence-separators; and the praise for "squares," 1 15-16 inch thick. We used to call them "Stuffed Prophets," and *dread* them, for they were the last ones to go in my stock—always. Finally, I selected a *special* town to inflict with that kind only, and showed no other samples—it was my only way to get shut of 'em.

Then to use separators without "posts!"—great Scott! in this day and age of the bee-keeping world, after the hammering Muth gave that heavy section fad, at the convention. And Bartz

read the report, for he quotes me on grading, as you observe.

Think of a beginner following that ancient history, and getting deep cells with a quarter-inch of dirty wood to scrape; besides, the public eye has been educated to full looking sections, and would reject his as *short weight*. A *thin* comb, with *larger surface*, looks more attractive, and is finished much quicker, for a deep cell takes longer to cure, and get ready to seal.

SECTIONS OF EXACTLY ONE POUND ARE A DELUSION.

Now then, about this popular belief that a section holds a pound of honey, and if you don't produce full pounds you are cheating poor, blind—on that point I claim to be pretty well posted, having interviewed thousands of customers in the last three years, in several cities, and, in selling extracted honey, that question is almost sure to come up, in contrasting the price with comb honey prices, and I find the persons who have faith in sections weighing a pound, to be like angels' visits, few and far between—the exception, not the rule.

BLACK BEES AHEAD.

Here's a conundrum for you, W. Z. If you had 18 colonies "Holy Lands," which proved to be "N. G.," and two colonies of big gentle blacks, which gave up 236 lbs. of comb honey, to nothing at all for the others, where, oh! where could you get queens like unto those dear blacks? (Dr. Miller says he "*don't know*!") How would *you* advise? (page 458, same journal.)

THE ARTIFICIAL COMB HONEY CANARD.

That artificial comb honey story, I run up against it every day. Of course I could go into the local paper and hit it a wipe, but that would help "my friend, the enemy," who has no trade in honey to amount to anything now, while by refuting it to each customer, gives *me* a better standing as an expert, and helps me more than the papers. This is *selfish* perhaps, but in the long run will do as well for the bee-keepers, if I do let the grocer look out for himself—but if I let my quill run on at this rate you will get discouraged in reading.

Respectfully, S. A. NIVER.

Editorial

KEEP an eye on the main chance.

I LOVE to help people; to show them how to succeed; to encourage them; to fill them with hope and happiness.

E. D. TOWNSEND will have one of his characteristic articles, on marketing, in the next issue of the Review.

SAMPLES of different kinds of honey from the different States are being gathered by Mr. France for exhibition at the coming St. Louis convention. He has asked me to gather samples from Michigan. Any one who can send me a pound of alsike, aster, willow herb, or any other kind of honey, except clover or basswood, will drop me a postal.

DON'T FORGET the National Convention to be held the 27th, 28th, 29th and 30th of this month, at the Christian Endeavor Hotel, in St. Louis. If you have not already done so, send 50c to N. E. France, Platteville, Wisconsin, which will insure you special rates at the hotel. Market St. street cars, west bound from the Union station, will take you direct to this hotel, which is

within 100 feet of the south entrance of the fair grounds. Try and make arrangements to do your sight-seeing either before or after the convention.

WINTERING BEES in hives protected only with felt or tarred paper did not prove successful last winter with Mr. J. L. Byer of Markham, Ontario. Out of 250 colonies, he prepared 26 by surrounding them with the felt paper. The rest of the colonies were protected with several inches of either sawdust or chaff. Out of the whole lot of 250 colonies, 20 died, and half of the number were in the hives protected by paper only. Of those that lived, only three were left in fair condition. As far north as Canada or Michigan, there must be more abundant protection than that afforded by surrounding the hives with heavy paper.

THE CHRISTIAN ENDEAVOR HOTEL, within 100 feet of the entrance of the great Fair, at St. Louis, is to be the home of the bee-keepers while holding their coming convention, in fact, the convention is to be held at the hotel. This is a most decidedly pleasant arrangement, as the little chats between sessions, around the tables, and in the rooms nights and mornings, are really the most enjoyable part of the gathering. This hotel is a mammoth structure, covering five acres of ground, three stories in height, and capable of accommodating 3,000 guests. There are wide verandas, a rotunda, offices, parlors, a United States Post Office, lunch counter, and a dining room with a seating capacity of 1,500. If you have not already done so, send 50 cents to N. E. France, Platteville, Wis., and receive a certificate that will entitle you to board and lodgings at this hotel for only $2.00 per day—unless you have this certificate you will have to pay much higher rates, and may not be sure of a room.

OUR FRONTISPIECE this month shows portraits of the men who were instrumental in securing the passage of Ohio's foul brood bill. Just a few words of description.

Mr. Painter is a prominent corporation attorney of Cincinnati, who kindly drafted the bill, and gave all necessary legal advice. He is an amateur bee-keeper, and his love for the pastime induced him to give all possible assistance.

Mr. Fred W. Muth is a dealer in bee-keeping supplies and honey. He is an expert salesman, and a hustler if ever there was one.

The Hon. Dwight R. Herrick is the Representative of Hamilton County, and, by the way, also a cousin of the present Governor. It was he who introduced the bill, and convinced his colleagues that it was an absolute necessity. He was formerly a bee-keeper, but foul brood destroyed his apiary.

Mr. John C. Frohliger is President of the Hamilton County Bee-Keepers' Association. He is cashier of a large, wholesale hardware house, but has 40 colonies of bees, and devotes much time to queen rearing.

Mr. Wm. J. Gilliland is the worthy Secretary of the Hamilton County Bee-Keepers' Association, and a most practical bee-keeper, one, by the way, who received his early experience in that line on the "Emerald Isle." He is a tireless worker for the welfare of the Association, and apiculture in general.

FINDING QUEENS in the fall, in full colonies of vicious bees is quite difficult. One man in New York who has such bees wishes to Italianize them, and asks Dr. Miller how to go to work to find the queens. The Doctor, in the American Bee Journal, suggests the use of chloroform; besides this, he gives a plan that, to me, seems more practical. He says "Move the hive

some distance from its stand, setting on the stand another hive containing perhaps a frame of brood, so as to catch and retain the returning field-bees. In two or three days the fielders will all have left the hive, and the younger ones will be more ready to listen to reason. When through manipulating them, return the hive to its old stand, allowing the old bees to join the colony." I would suggest that the new queen be introduced before the colony is returned to the old stand, as it is much easier to introduce a queen to young than to old bees.

THE PROGRESS OF APICULTURAL WORK UNDER THE AUSPICES OF THE U. S. DEPARTMENT OF AGRICULTURE.

The years of quiet, steady, persistent, earnest work of Mr. Frank Benton in urging the Department of Agriculture to recognize apiculture, are at last bearing fruit. Heretofore the only experimenting that has been done, has been done with Mr. Benton's own bees, which has often interferred seriously with his crops of honey. Now there is to be a central, experiment apiary just across the Potomac on the Virginia shore, and sub-stations in different parts of the country—one at Chico, California having already been decided upon. Two special agents in apiculture, who will assist Mr. Benton, have been appointed, one being our old friend John M. Rankin, who was once Inspector of Apiaries for this State, and the other a Mr. Leslie Martin of Tennessee. There is also soon to be appointed an apicultural clerk. Aside from the experiments by which we may expect to profit, we may often find it profitable to thus have friends at court.

PLANS AND THEIR EXECUTION.

Many men are excellent at planning. They can plan from morning till night and their plans may be all right, but there is a lack of executive ability for carrying out the plans. Other men have splendid executive abilities—give them a plan and they will carry it out. But they seem incapable of inventing, or planning, or originating new ideas. A plan or an idea is often of immense value if placed in the right hands. Some large firms employ men who do nothing else than to think, and plan, and scheme, furnish ideas for other men to work out. Most of us do too little thinking and planning. We are so busy working that we have no time for study. If a man would just take *one day* "off" and spend it in studying his business, going over all of its phases carefully, he might find it the most profitable day's time he ever spent.

THE USE OF SMOKE IN HANDLING BEES.

In passing from apiary to apiary, looking for foul brood, I am surprised to see how differently men use, or *mis*-use smoke, when handling bees. Some men even ask me if I ever "smoke in the entrances?". As a rule, such men will jar the hives in taking off the cover, then pry or pull off the super with a snap. About this time the bees, angry bees, begin pouring out at the entrance, and from the top of the hive, and *then* the bee-keeper begins to use the smoker; but the bees are mad now, and no amount of smoke will pacify them. The most important place to use smoke, is at the entrance, and it should be used there as the *first step* in opening a hive. Subdue the bees *first*, then all of the jarring will only make their subjection the more complete. So many times has some man cautioned me about attempting to examine some colony, saying the bees were perfect tigers, and that I would be stung terribly. I always say: "Give me the smoker." I give them a good thorough smoking before attempting to open the hive. I then open the

hive carefully, using a little smoke if there is any sign of obstreperousness. As a rule I pass the ordeal without a sting, while the owner looks on with amazement. The whole secret lies in subduing the bees before opening the hive. Smoke the bees *first*, and then you can usually handle them in peace and comfort.

COSTLY INVESTIGATION TO PROVE TRUTHFULNESS OF POLARISCOPIC EXAMINATIONS.

Most of us know that the chemist depends chiefly on the polariscope to determine the purity of honey, yet the suspicion was thrown out in a bulletin issued by the government in 1892 that honey gathered from the excresence of the pine tree might show a low, right-hand reading, while all genuine honey heretofore gathered in this country had showed a left-hand reading. In that same year a large packing firm in California shipped several carloads of bottled honey to the East, and, upon examination, it gave a right-hand reading, but this suspicion that honey from the pine might give the same kind of a reading, prevented the chemist from giving a decided answer. To settle this matter, Wm. A. Selser, of Philadelphia, took a three-months trip that cost him $1,500, visiting the large apiaries of the South and West, going as far as Vera Cruz, Mexico. The most important sample was secured from an apiary situated right in the midst of the pine forests in the mountains to the extreme east of Redlands, Cal. This sample, taken from different hives, still showed the left-hand readings.

Mr. Selser then went still farther and employed detectives to visit the packing house that had sent out the suspected honey, and they learned that glucose and cane sugar were both used to adulterate the goods.

It is fortunate that we have in our ranks so able a chemist as Mr. Selser, and, still further, that he has the pluck and perseverance to carry his investigations to the point mentioned in the foregoing, which I gather from the June issue of the American Journal of Pharmacy.

WIDE, DEEP TOP-BARS, AND THE NEED OF HONEY-BOARDS.

Before an inspector of apiaries come opportunities for observation such as come to few bee-keepers. He sees all sorts of hives and fixtures, and meets all kinds of bee-keepers. One thing that I have been able to notice this season is the extent that wide, deep top-bars prevent the building of burr-combs. I should think that they prevent at least three-fourths of the combs that would otherwise be built. When crowded for room, I find that, even with the wide, deep top-bars, the bees will crowd in enough burr combs to make a bad mess when the super is removed. I would not think of producing comb honey with a slatted honey-board; and, as there are many cases in which a queen-excluder is needed, it seems to me that a wood-zinc honey-board is a most important implement in the production of comb honey.

FEEDING BEES SUGAR IN SPRING AND FALL—IS IT LIKELY TO GET INTO THE SURPLUS?

Last April, Mr. E. W. Alexander of Delanson, New York, contributed a a most excellent article to the Review on the subject of feeding sugar syrup to the bees in the spring and fall. The syrup was fed in very small quantities in the spring, about a quarter of a pound per day, to each colony, and solely for its stimulating effect, that the bees thereby might be encouraged to keep up brood rearing and bring all colonies up to the harvest with combs filled with brood. He also advised, if necessary, the feeding of larger quantities in the fall, for winter stores.

Since the publication of that article I have received one or two private criticisms on the subject, intimating that Mr. Alexander's crop was probably increased by the sugar that went into the supers. A writer in the September issue of the American Bee-Keeper also takes Mr. Alexander and the Review editor to task for advising such feeding of sugar.

I am surprised that any practical bee-keeper should make any such criticisms. Mr. Alexander very explicitly explained that the feeding was to be done only for a month or six weeks in the early spring, before the beginning of the main harvest. At this time there would be no supers on the hives, and the small amount used, "not more than two cents worth a day," would be used up in breeding.

In the fall, if the bees were fed sugar for winter-stores, the sugar would be stored in the center of the brood nest, in the cells vacated by the brood last hatched, where it would be the most likely to be consumed during the winter, and surely would be used in the spring before storing in the supers would begin. This is exactly the course advised and practiced by J. E. Hetherington.

It strikes me that such criticism is more a straining for an effect than for anything else. Every bee-keeper who has had experience in these matters knows that, under such circumstances the chances are very slim that even a small portion of the sugar would go into the supers; and to intimate that Mr. Alexander's surplus is materially increased by the sugar that goes into the surplus, is decidedly unfair.

NEATNESS IN THE APIARY.

Neatness in the apiary is something to which I have several times referred, but, as I go about inspecting apiaries, I become so sickened by the slovenliness that I see, that I *must* say a few more words. Time and again do I find men keeping bees who really have *no business* to keep them. Their hives sit askew, with the grass grown up around them. No foundation is used, and the combs are sure to be bulged and built crosswise. If the owner is asked about his bees, he is sure to answer, "I don't know. I don't pay much attention to them." How I *do* hate to find foul brood in such an apiary. I means that some one else than the owner must treat it.

But this is not the only class of bee-keepers who are neglectful of the appearance of their apiaries. I find even readers of the Review keeping bees in a way that makes my fingers itch to take hold of things and straighten them up. I don't expect that every man who is making his living out of bee-keeping, is going to keep his apiary looking like a city park, although there is occasionally one that does. I notice, however, that the men who keep their apiaries looking the neatest are among the most prosperous. Neatness in the apiary may not be responsible for the prosperity; I suspect that the man who is thorough going enough to keep his apiary neat and clean is also thorough going in other respects. One of the most offending defects in the appearance of many apiaries, is the disorderly manner in which the hives are set down, it could scarcely be said arranged, as there is really no arrangement about it. It is not necessary that the hives be set in long rows, in fact, there are other quite handy and pleasing arrangements, but let there be some sort of regularity about it.

After the hives are neatly arranged, the next step is to keep down the grass. So far as appearance is concerned, nothing equals the work of a lawn-mower, but it is considerable work in the fore part of the season, in a large apiary. The next best thing to a lawn-mower, are a few sheep. I have seen an apiary kept in fair condition where

cows had access to it, but the sheep are preferable for several reasons. If I were running several out-apiaries, and felt that I could not afford to keep them mowed, and it was not practical to pasture them, I would scatter salt freely around each hive, at least one or two feet in front. This will kill the grass and keep it from growing. If there is anything in an apiary that distresses me it is to see bees struggling in and out of a hive the front of which is covered with a great mass of grass or weeds.

Get your hives into some regular order, set them level, keep down the grass, and, having gone thus far, I feel that you will abandon the habit of scattering about, and leaving lying in the yard, such things as extra covers, frames, honey-boards, etc.

Where most of the time, from daylight till dark, is passed in one place, it is worth while to make that spot pleasant and agreeable—yes, even beautiful.

HOW ASSOCIATIONS CAN HELP SELL THE HONEY OF THEIR MEMBERS.

Last year the General Manager of the National Association published in his annual report the names and addresses of the members, together with the amount of comb and extracted honey produced by each member. By looking over this report, dealers and others who wished to buy honey, found who had it to sell, and correspondence and sales were the result. Taking a hint from this, the Michigan Association of Bee-keepers, at their last meeting, decided to print a list of its members, together with their addresses, and the amount of honey on hand by each member. The kind of honey and the manner in which it was put up was also to be given. The Secretary, Mr. E. B. Tyrrell, of Davison, Michigan, has gotten out a very neat little circular of 12 pages, including cover, giving the list of members and the particulars just mentioned, and, besides, he has taken pains to give some hints in regard to the care of honey, why it candies, how to liquefy it, how honey is extracted, etc., not forgetting to pay his respects to that manufactured comb honey canard. The first page opens as follows:

"To the Retailer and Consumer: This little book is issued to tell you where you can purchase honey guaranteed to be absolutely pure, directly from the producer. All the names given in this book are members of the Michigan Bee-keepers' Association, and this Association guarantees the purity of all honey sold by its members, and will prosecute any one selling impure honey through the Association."

The next step will be that of putting "liners" in the leading daily papers of the State, offering to send the names and addresses of the Association upon application, thus enabling consumers to purchase pure honey direct from the producers.

Here is another point: Since it was announced in the Review that the Michigan Association was to follow this plan, nearly one-third has been added to our membership—men have sent in their dollars by mail and ask to be admitted. We last year had a long discussion as to what could be done to keep members after we had gotten them, and this was the plan that we decided to try. It seems now as though it would prove a most excellent plan.

Now then, what the Michigan Association is doing can be done by other Associations—by the National. In its forthcoming report, the names of members, their addresses, and the amounts of honey produced by each, will be given. Now let the General Manager get up some attractive advertisements, something that will rival the ads. of Karo Korn Syrup, and put them in the leading magazines, offering to furnish

the names and addresses of those who produce honey, thus enabling consumers to buy direct. A man in New York could be sent the New York list of members. One in Illinois, the Illinois list, etc. Consumers could then correspond with the members nearest to them, and thus save freight. This feature might prove one of the most profitable that the National could adopt, and I have in mind the making of a motion that the General Manager make a trial of this feature. Before doing so, I would like to have suggestions from anyone who has any ideas to offer on the subject.

THE FIRST CASE OF "EXPERT" ADVICE.

The first man to accept my invitation to send in a description of his business, and allow me to advise him, is Mr. Frank Stoflet, of Auburndale, Wisconsin. After reading his letter and sending a reply, I secured his permission to publish both the letter and reply. His letter is as follows:—

AUBURNDALE, Wis., July 14, 1904.

Dear Editor of Review—

Reading your editorial in the Review about advising bee-keepers, made me feel that you are just the man I am looking for. I am intending to make the bee business my life-work, and I feel as though you could help me on many points.

I am lame, and not able to do very heavy work. My education is not very good; so I concluded I would follow the bee business, as it seemed to me to be quite profitable.

I got my first bees in 1898 when I was 19 years old. I was out hunting, and, on going home, I found a small swarm clustered on a tree. In 1899 they cast a big swarm, and in 1900 I increased to five colonies. (I might better state here that I live at home.) Then my folks bought a farm in Wood County, and I moved my five colonies along up to Wood County from Dane County, a distance of over a hundred miles, in a freight car with machinery and stock. Then we moved them five miles in a wagon over rough roads. That winter I wintered them in a root cellar covered over with planer shavings. They came out in the spring extra strong, and all swarmed, and I sold $55.10 worth of honey from them, and increased them to fourteen colonies. This was in 1901.

The following winter I wintered them in a newly dug cellar and lost all but one colony. I bought four colonies, and I increased to fourteen and got no honey. Then I built a repository above ground, with double walls, having two and a half feet of planer shavings between the walls. The fourteen colonies came out fair in the spring, and that year (1902) I increased to forty colonies, and sold something like $50. worth of honey.

In 1903 I increased to eighty-three colonies, and sold 1500 pounds of comb honey to R. A. Burnett & Co., at 12½ cents per pound

Last winter was so long and cold that 35 colonies ran out of stores and starved to death in spite of anything I could do. 51 colonies came out alive and in fair condition. I now have 105 colonies, and my best colony has 64 sections of white honey sealed.

Bees here commence their first work on willows, then come gooseberries, cherries, thorn apples, raspberries, white clover and basswood. We also have an abundance of fall flowers.

I began my first queen rearing this spring, using wooden cell-cups.

I have the common mixed up strain of bees. I have been trying to learn which strain of bees is best. I am working hard now on this problem.

Last year I made a change in hives from 10-frame to 8-frame, and to supers with 1⅝ plain sections and fence separators.

After I located here, a farmer started to keep bees. He has about the same number I have, and his yard is one mile from mine, and then no more within five or six miles.

I read the American Bee Journal, Gleanings and the Review. I doubt if there is any one who loves to handle bees better than I do.

I do not write because I feel as though I was on the wrong road, although it is possible I am. I write because there's lots to learn about bees, and I am anxious to learn, and I feel as though you could put many things in a light that I never dreamed of.

My brother is going to build a cellar this summer, and, instead of building one myself, I am thinking of wintering my bees in his cellar, as I haven't the means to do much building this

fall. This will help me out, providing I can move them without injury to them. Do you consider it a safe plan to move bees one mile when the time comes to put them in the cellar? The cellar is on high ground and will be stoned and cemented.

Yours truly,
FRANK STOFLET.

Here is my letter to Mr. Stoflet:—

FLINT, Mich., July 20, 1904.

Frank Stoflet,

Auburndale, Wis.

Friend S.—Your good letter of the 14th came duly to hand. You are on the right track all right. Your great stumbling block, so far, seems to be the wintering problem. You have a good location, and, by experimenting, and trying different strains of bees, you can finally get the best. You are going to use the right size of hive for producing comb honey. Your choice of super arrangement is good. The one great thing for you to study now is that of *wintering*. If you can only succeed in wintering your bees year after year, you will soon have a large apiary, and be spreading out and establishing out-apiaries. *Learn to winter your bees*. That is *the* thing for you to work for, and, if you succeed, you will be on the high-road to prosperity. While I would rather put the bees quietly into a cellar, instead of moving them, I am inclined to think that no harm will come from moving them and putting them right into the cellar The right kind of food, and the right temperature are the two great needs in wintering bees here in the North. The late Capt. Hetherington, of N. Y., so I was informed by his brother, never made a success of wintering his bees until he adopted the plan of feeding each colony about ten pounds of sugar syrup after the harvest and the breeding season were past. This syrup was stored in the center of the hive, where the last brood had hatched, and where the bees would be more likely to cluster than elsewhere, and this sugar was their principal food during the months of confinement. With this sugar-feeding, and cellar-wintering, the Captain became very successful in wintering his bees, and built them up into thousands of colonies. Your location may not be such as to require such feeding, but I wish that you would try it on a few colonies this fall. Make a good thick syrup, and feed it the latter part of September, or first of October—just about as the last brood has hatched. Give about ten pounds of sugar to each colony. Suppose you feed it to, say, 20 or 25 colonies. I would do this each year until I became satisfied whether it was of any benefit or not. If there should come a winter when you lost heavily of the colonies having natural stores, and none, or very few, of those having sugar, you would then know that the sugar would help you through every winter. If year after year passes with no advantage from the sugar, then there would be no inducement to continue its use. With the climate of Wisconsin, it is quite likely that cellar wintering will prove the better plan, one year with another. I wish you would make a little experiment this fall and winter in regard to moving the bees to your brother's cellar. Move a few, say, 20 or 25 colonies, early enough so that they will surely have a chance to fly again before putting them in the cellar. The disturbance of moving them a mile will induce them to mark their new location, and it is not likely that many of the bees will return to their old location. Even if a few should come back, they would join the colonies on the old location. Say you feed 25 the sugar as suggested. Then move ten of the sugar-fed colonies and 15 of the others, early enough so that they will have a flight, and move the rest and put them right into the cellar from the wagons. With this plan you will then know, or be able to know, whether the sugar-feeding has helped any, and you will also know if

moving them and putting them right into the cellar has any bad effect.

As I have said before, *your* problem is the wintering problem, and you must set yourself to the solving of it. When that is done, other things will be easy. I would try and have a good dry cellar of my own as soon as possible.

As ever yours,
W. Z. HUTCHINSON.

HOW TO COMBAT THE FOOLISH STORIES ABOUT ARTIFICIAL COMB HONEY.

First one thing to fight and then another. We have been fighting adulteration for a long time, and probably will have it for an enemy for all time, but just now the stories about it are worse than adulteration itself, and about as hard to combat. No sooner do we get the artificial comb honey story corrected in one paper than it springs up in another. So far we have been able to secure retractions. The Ladies' Home Journal, in its September issue, corrects the statement that it made in the June number about artificial combs of paraffin. To be sure, Dr. Walker uses three times the space used in correction, in giving quotations supporting her first statement with the very evident intention of "saving her face," but she winds up with the following:

Notwithstanding these apparent authoritative statements, wide inquiry among practical bee-keepers now convinces me that paraffin is not used for this purpose and never has been excepting in an experimental way. Therefore, the statement made in the June issue was erroneous. What appears to be further evidence of this is the fact that a reward of $1000 for a sample of paraffin comb was offered some years ago, and I understand has never been claimed. I give the above facts so that my former statements may not do any injustice to the army of reputable bee-keepers in America.

While this may not be exactly the kind of correction that some of us would have made, it removes the impression that comb honey can be made artificially, and, appearing, as it does, in so prominent a journal, will be a great aid in securing retractions in other journals. Since the canard appeared in the Ladies' Home Journal, another Pennsylvania paper has published that same old story. This time it was the Pittsburg Gazette, but so many protests were received that the editor gladly gave place to an article by Mr. Frank Benton, which is probably the best correction of this "story" that has yet appeared.

Of course, we editors at once write to these papers, but that isn't enough. One of the great factors in leading the Ladies' Home Journal to make the proper correction was the *great flood* of letters that poured in from all over the country.

Here is what seems to me to be the best plan: Just as soon as a bee-keeper sees one of these stories in any paper, let him at once write to the editor, and, at the same time, let him notify all of the editors of the bee journals, that they may publish the matter, and then let all of the readers of the journals at once write to the offending, or mistaken, journal that has published the misleading and damaging statement. Let no one say or think, "Well, all of the others have written, I guess I won't bother." That is *exactly* what all of the others will think, and, as a result, very few letters are sent. If *every bee-keeper* who sees such items mentioned in the bee journals would at once write to the editors, something would surely happen. I look upon this matter of writing as a *duty* that every bee-keepeer owes to himself and his calling. Unless something is done to stem this tide of falsehood that is sweeping over the country, the price of honey is going to be seriously affected.

Here is still another case that needs attention, and, as is often the case, it

comes from some one in authority, some one who, so the public thinks, ought to know whereof he speaks. In bulletin No. 62, gotten out last May, by the Wyoming State Experiment Station, at Laramie, Wyoming, may be found the following statements. On page 11, the following: "Probably more than half of the strained honey in the market contains a large percentage of glucose as an adulterant."

On page 49 it says, "When prices are high, comb honey is adulterated by feeding the bees cane sugar. Attempts have been made to manufacture artificial comb of paraffin, but it is found too soft, and the melting point too low."

I hope every reader of the Review will write to the Director of the Experiment Station at Laramie, Wyoming, and protest against the unfairness and unreliability of these statements, pointing out the injury that they are working to an honest, helpful, industry, and ask them to make the proper corrections.

It is true that glucose is used to adulterate extracted honey, but to say that more than half of the extracted honey on the market is adulterated, is an exaggeration. It is also true that sugar *has been* fed to bees for them to store it in sections; I have done it myself, experimentally, but the great bee-keeping public has never seemed able to make a success of feeding bees, sugar, glucose, or even honey itself, for them to store it in sections, and it *isn't being done*.

EXTRACTED DEPARTMENT.

A WINTERING REPOSITORY ABOVE GROUND..

How to Make a Good One Very Cheaply. The Necessity for Indoor Wintering in Northern Climates.

Many were the losses of bees last winter because of insufficient preparation—because of lack of stores and proper protection. The necessity for indoor wintering, and how to secure it cheaply, is well told in an article written early last spring by E. A. Morgan, of Wisconsin, and published in the Farmer, of St. Paul, Minnesota. Mr. Morgan says:—

The past winter has been one of continuous cold all through, yet if the bees were in a frost-proof cellar or bee-house, with food enough, they will be in as good condition, or better, than they would had it been changeable, warm or sloppy, like the winter before.

I think the question of wintering bees outside in chaff hives or sawdust packing is settled for good after such a winter as the one just passed.

Every hive of bees in this vicinity left outside was dead long ago, no matter *how* packed. Chaff hives and sawdust packing will do where the climate is such that the weather often warms up to above the freezing point, or at least as often as once in 30 days, thus giving the bees a chance to change position and have a flight, but during the past winter the thermometer here has not been above freezing for 120 days. All stocks that I have had a chance to examine starved and froze to death with plenty of honey on all sides of them, but had worked their way to the top of the frames above the cluster, and were too benumbed to move sidewise to other combs of honey.

I read in the bee journals of bee houses for wintering bees above ground made frost-proof by sawdust packing on sides and on top, but which cost $150. So, for the benefit of those who have no cellar under dwelling, entirely frost-proof, or those living on bottom lands where cellars would fill with water, I will give a description of my present wintering receptacle.

I built it in June, here in the woods, out of logs, 12 x 20 x 8 inside, chinked between the logs, and plastered up smooth outside and inside with clay plaster. It has a good shingled roof, door in end, windows in gables. It was used for extracting and storage of honey during the summer.

In putting on the rafters, which were hewed poles, they were left extended three feet outside the building, roof made of cull boards, and shingled down to ends of rafters. On October 1st I set 2 x 4 studding (in my case I used poles) up two feet from the outside of the log building, boarded it up, and filled this two foot space with wet sawdust, pushing it down tight, and packing full, snug up under the eaves, and the same at the ends, eight feet high, making a second door outside the other one. A floor was put in above and two feet of sawdust piled overhead. Two ventilating tubes six inches square were put in four feet from each end, but these have been closed all winter. No floor was laid below. The hard clay was scraped level, and four inches of sawdust put down for a carpet. Two hundred colonies were put in November 13th. A thermometer was hung up in the center of the room, which showed a temperature of 45 degrees after the two doors were fitted closely and tightly closed. Examinations have been made weekly. The thermometer has not been below 41 or above 46 in all winter. The bees have at all times been unusually quiet, a low hum can be heard when one is inside with the doors shut. The dead bees have been swept up four times during the winter.

At such times a light was used, but it did not rouse the bees so they came out. The weather here has been most severe, nine times going 40 degrees below zero, once 43 degrees and once 45 degrees below, but such temperature, with high winds and drifting snows, have not caused any change within. The sawdust was put in wet, so as to prevent the warmth entering toward spring, acting as a stone wall. The inside will be no warmer in warm weather.

Now for the cost. Here in the woods the logs for building, rafters, chinking and mudding cost nothing. Work one day with team hauling the logs together. One day for plastering. Clay mixed with water was put on freely inside and out and mixed up beside the building. Five hundred feet cull boards for roofing, 650 feet cull lumber to hold sawdust. Four thousand shingles.

Upper floor 300 ft., beams 50 ft.; total, 1,500 ft., at $4 m	$6.00
4 m shingles, at $1 m	4.00
2 windows in gables, at 40c	.80
Hinges for doors 40c, hasp 20c	.60
10 double-box loads sawdust, hauling	5.00
Nails	.60
Total cost, outside of my work	$17.00

Ten days' work, while watching bees, also, completed the whole.

Here I have a bee-house good for 25 years at a cost of $17 cash and 10 days' labor of myself, which answers every purpose as a cellar, as I have my potatoes, fruit and vegetables in it, and also shall use it during summer for workshop and extracting room. It is handy to get into, no steps to go down, wide door, so a wheelbarrow can be run right in with a load of honey; and lastly, it is dry with no mould or dampness. Should a colony starve, their combs will be dry, sweet and clean. Of course here in the pine woods lumber is cheap, and in a prairie country one could not get logs, but I see no reason why the same could not be built of lumber in the same way, using sawdust between two walls.

Bees at present are still very quiet, with no marks specking outside of hives. One colony, apparently starved, was found with most bees off the combs and combs empty. Some few still had life enough to stir their legs a little. I gave them a 5-lb. cake of warm sugar candy at once, made by melting granulated sugar in water and boiling till it would harden, laying it on the frames. All revived within 12 hours, and now cover the candy in a mass. I have often revived a starving colony by feeding, after the bees had lain on hive bottom two days, after which they did as well as any.

It is nearly time to set bees out, but wait till the snow is all off and warm weather seems to have come to stay.

I WILL BUY

a few tons of honey and pay cash at your depot. Correspondence solicited. Give full particulars as to quality, sections, when it will be ready to ship, price wanted, etc. If satisfactory I call on you. A. W. SMITH,
8-04-3t Birmingham, Mich.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04-tf

J. B. Case, Port Orange, Fla.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr.	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One Warranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	3.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8.00	

Page & Lyon Mfg. Company New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1904 Catalogue and Illustrated Price List—free for the asking.

3-04-6t

Now Here's 2 or 3 Testimonials from Bee Folks.

High Hill, Mo.

I have been buying YZ of you for 7 or 8 years. They are as effective as ever.

EMIL F. NEBEL.

Platteville, Wis.

YZ have been of great value to myself and family. They are a splendid remedy for headache, chills and fever and all aches and pains of the body.

MRS. N. E. FRANCE.

Reeds, Minn.

We have no use for a Dr. when we have YZ Just one tablet helps me. It was a lucky day for me when I saw your ad. in the Bee Journal.

MRS. E. B. HAWKINS.

YELLOWZONES

didn't just happen! They are the result of 19 years careful trial and observation in my own private practice. Even now I am, myself, often astonished at the marvelous power these little tablets exert in most serious conditions. It has been said before

And I repeat it BOLDLY that if you keep but one remedy in the house it should be

YELLOWZONES

My patrons say the same and so will you. Your own safety and that of your family demand that you keep at hand this honest, safe and effective remedy for

Painful and Feverish Conditions of all sorts.

I give you full value for your money, and I **guarantee** that if you are disapointed in them you get

Your Money Back, and Another Box.

The price is $1.00 per box, and you'll get good value. Trial box, 25c. Write for it now!

W. B. HOUSE, M. D., De Tour, Mich.

THE DEMAND FOR

Moore's Strain of Italians

becomes greater each year. The following report shows the reason why:

Excel in Storing Capacity.

B. S. Taylor, a large honey-producer of Perris Calif., who sent me an order for 75 queens at one time, says: "I have a large apiary mostly of your stock, and I have never in my 30 years' experience, seen so quiet and gentle bees to handle, and in storing capacity they excel anything I have ever had."

Untested queens, 75c each; six, $4.00; dozen, $7.50. Select untested, $1.00 each; six, $5.00; dozen, $9 00.

Safe arrival and Satisfaction Guaranteed.
Descriptive Circular Free.

I am now filling orders by return mail, and shall probably be able to do so till the close of the season.

J. P. MOORE,
Morgan, Pendleton Co., Ky.

For Sale!
100 winter cases

Having moved one of my yards to a deep snow location, where bees do not winter well in chaff, I offer for sale, 100 winter cases, built for 10-frame hives. Of course they can be used for an 8-frame hive and give room for more packing. They are built of ⅜ inch white pine, boarded up and down, the front, rear and sides are built separate, so they can be shiped K. D. and a small nail, in each corner, holds them in place when in use, with a sheet steel roof, which has always been kept painted. Order in even numbers, as the stands go with them, and are built in pairs, and form the bottom of the case. They have only been used five seasons, and are nearly as good as new. 75 cents each takes them.

Honey For Sale.

Our new crop of extracted honey, consisting of White Clover, Raspberry, Clover and Basswood, mixed, is now ready for the market. It is in 60 lb. cans, two in a case. Also 10,000 lbs. of amber in barrels and cans. Say how much you can use, and the kind, and I will mail you a free sample, and quote you our lowest price.

E. D. TOWNSEND,
Remus, Mich.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

For ROOT'S GOODS in

MICHIGAN

M. H. HUNT & SON

Send for Catalog Bell Branch, Mich.

Our $10,000 Bee-Keepers' Supply Manufacturing plant is ready for business. Send for price list.
MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

STANDARD BRED QUEENS.

BUCKEYE STRAIN RED CLOVER,
GOLDEN ITALIANS. CARNIOLANS.

By Return Mail. Safe Arrival Guaranteed.

PRICES	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00
Select Breeders, each			$3.00
Two-frame Nucleus and nice Queen			3.00

THE FRED W. MUTH CO.,
No. 51 WALNUT ST., CINCINNATI, OHIO

Shipping Cases

No-drip, 24lb, $13.00; 12lb, $8.00; 20lb, Danz. size or for 4 x 5 sections, $10.00. The $1.00, 1½ story, 8-frame Hives still goes like hot cakes. Sections, Foundation and all kinds of Bee Supplies on hand. Send for list

W. D. SOPER,
R. D. 3 Jackson, Mich.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. They work on red clover as well as on white clover- Untested, 70c each, two for 1.25, or $7.00 a dozen; tested, $1.00, or $10.00 a dozen; breeders. $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular. G. ROUTZAHN,
4-04-6t Biglerville, Penn.

Please mention the Review.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

ITALIAN QUEENS

Either Golden or Honey-Queens after July 1.

Our GOLDENS will come up with any other Golden strain. Our HONEY-QUEENS are what some breeders call "Red Clover Queens."

	1	6	12
Untested	$ .75	$ 4.00	$ 7.00
Tested	1.25	7.00	13.00
Breeders	5.00	....	....
2 frame Nuclei(no queen)	2.00	11.50	22.00

Texas Queens

From the *Cotton Belt Apiaries* are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price ist, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

100 Swarms for Sale

In a fine basswood and clover location; bees in fine chaff hives with five inches of packing; and there are fixtures for producing both comb and extracted honey. Address 6-04-tf

E. D. OCHSNER, Prairie du Sac, Wis.

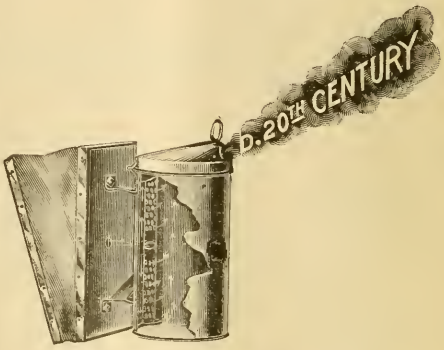
Bees For Sale!

Randolph Graden, an old resident of Taylor Center, Wayne County, Mich., who has been a bee-keeper for over 20 years, will sell, at public auction, on September 14, 1904, his entire apiary of 54 colonies of bees, and outfit, and will move with his family to California in search of a home in a warmer climate.

DANZENBAKER

20th Century

SMOKER



A SMOKER SURE FOR $1.00.

Guaranteed to Suit, or Dollar Back.

The last in the field, combines the best features of others, with special ones all its own.

It has a perforated draft-grate at the side that strengthens the fire-cup and holds a removable lining and packing in place, that keeps the fire-cup cool, thus adding to its durability. This lining can be replaced at small cost.

The draft-hole is midway of the fire-cup, directly opposite of the only opening in the bellows, from which the air is forced and deflected upward or downward, or both ways, as desired, to secure a dense or hot or cool volume of smoke, which is determined by the filling and lighting of the fuel.

It is superior in make-up and material.

It has no parts that can clog with soot.

It will continue to smoke from three to ten hours, in light work, until all the fuel is burned.

It wins friends who willingly recommend it to others.

Full directions for use, and preparing special fuel for subduing bees and destroying the eggs and larvæ of the wax-moth, with each smoker.

PRICES:

$1.00 each; three for $2.70 when sent with other goods. By mail, each 25 cents extra.

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Care The A. I. Root Co. Sec. 1, Horticulture Bld.

St. Louis, - Missouri.

Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder

513-515 Mass. Ave.

INDIANAPOLIS, IND.

What They Say!

Hillsboro, Wis.

W. H. PUTNAM,

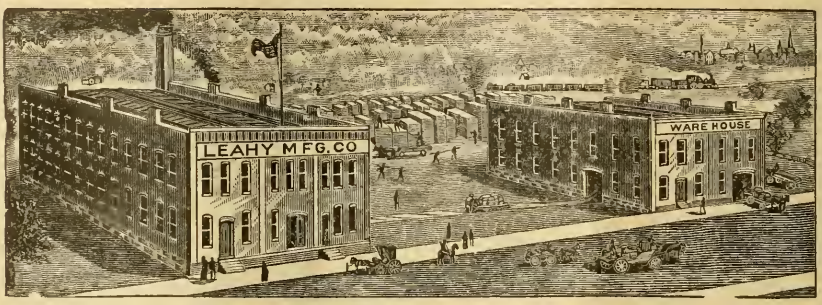
River Falls, Wis.

Dear Sir:—I delayed answering your letter until I had read the June number of the Rural Bee-Keeper, and must say as a Bee-Keeper of 22 years' experience I am more than pleased with it, regardless of the assertions of some that the publishing in this line was already overdone, and if the improvements continue it will certainly be second to none within its first year of publication. I consider the June number alone worth several years' subscriptions, to any practical live bee-keeper and will say let the good work go on and on. You have a good field, and the fact of our having a Bee Journal published in our own state, should be a lasting stimulant to all bee-keepers of Wisconsin and the Northwest, and 50c certainly cannot be invested to better advantage. You may send me some more blanks. Yours truly,

ELIAS FOX.

Send 10c for three back numbers or 50c for one year.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

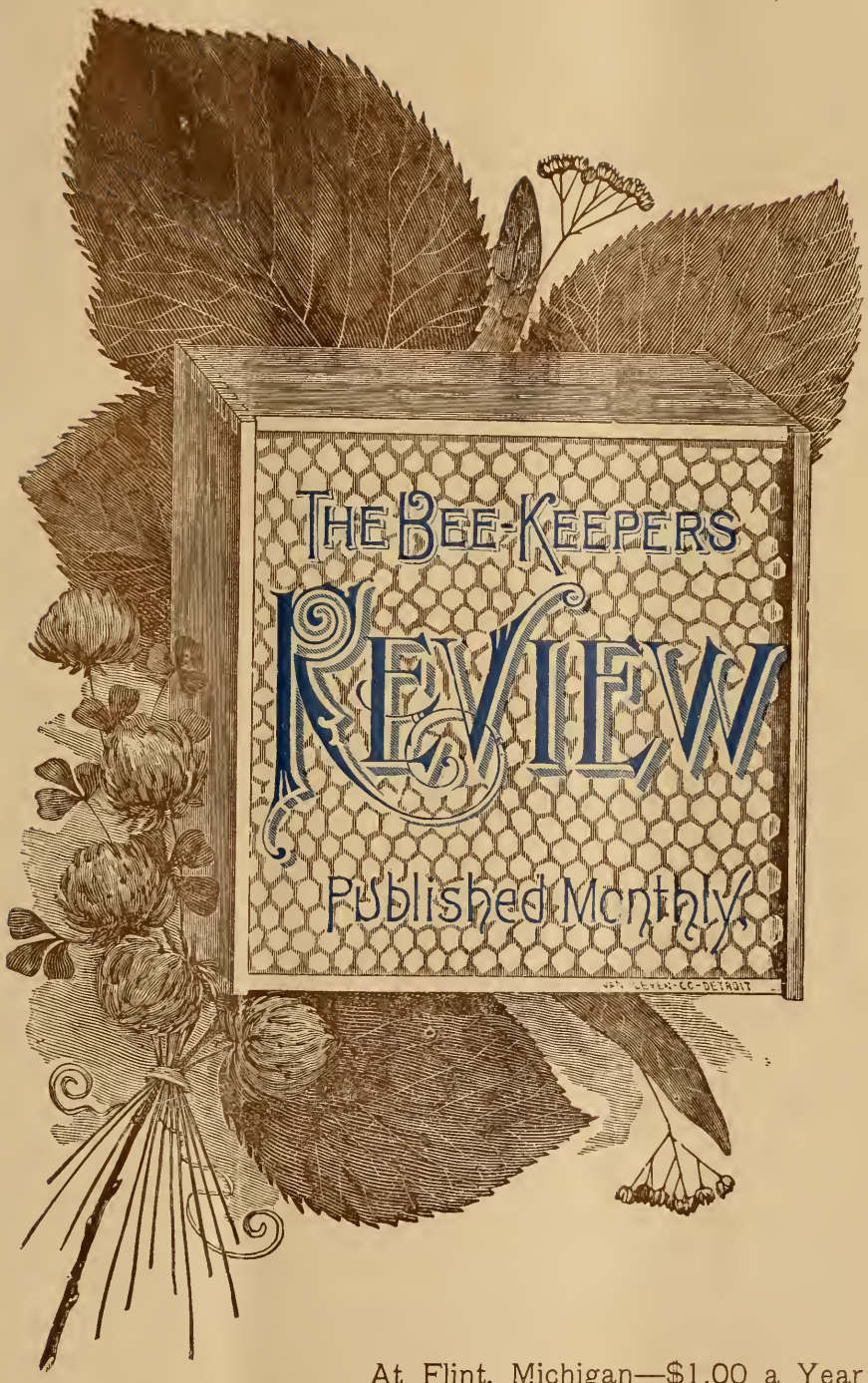
The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo.
East St. Louis, Ills.
Omaha, Nebraska

October, 1904



At Flint, Michigan—$1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 201

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Oct. 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines aud upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

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I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
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Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

6%

Discount on all orders sent in during October. By sending your order now you will save money and secure prompt shipment. Our Hives, Sections, etc., are of perfect workmanship. Send for catalogue —free for the ordering.

PAGE & LYON M'F'G CO.,
New London, Wis.

10-04-tf

Names of Bee-Keepers
TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....200	
Ind....	744	Neb.....345		Va.....	182
Ills....	1375	N. J....	130	W. Va....172	
Iowa..	800	N. H. ..	158	Wash.....128	
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

This Is the man who publishes the only independent Bee Journal in the West.



P. F. ADELSBACH,
Editor and Publisher
WESTERN BEE JOURNAL
103 W. Seventh St.
Hanford, Cal.

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired.*

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

Get Shipping Cases

You can do it now. Maybe when you'll **need** them you won't be able to do it.

One-piece covers without extra charge.

If you prefer them you can have the one-piece covers without any additional cost. If you want them you'll have to mention the fact, though.

The fire which gutted other parts of our power building didn't affect our ability to get out orders. It will pay you to write us about goods that are discolored by smoke and water.

Minnesota Bee-Keepers' Supply Mfg. Co.
Minneapolis, Minn.

Are you looking for

QUEENS?

If so I can furnish you queens of the following races by return mail:

Three- and five-banded Italians, Cyprians, Holy Lands, Carniolans and Albinos.

Untested, of either race, 75c each; Select, Untested, $1.00 each; six for $4.00; twelve for $8.00; tested, of either race, $2.00 each; six for $10.00; one dozen, $18.00; Breeders, $4.50 each. Safe arrival guaranteed.

B. H. STANLEY,
7-04-tf Beeville, Texas.

Texas Queens

From the *Cotton Belt Apiaries* are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two and three-frame nuclei a specialty. Write for circular and price list, which gives full information. 4 04 9t

E. A. RIBBLE

Box 83. Roxton, Lamar Co., Texas

FOR SALE—8 frame Bee Hives and fixtures, Largstroth size. F. J HOOPER,
10-04-t Last Downingtown, Penn.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold.
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have nearly five hundred on hand. Price, $5.00 each. Tested, each $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

VIRGINIA QUEENS.

Italian Queens secured by years of selection from a cross between Red Clovers, mine and the Superior Stock furnished by W. Z. Hutchinson. No better bees are to be had anywhere.

Untested queens, large, vigorous and prolific, only 75 cts. After June 15th, only 65 cts. Tested queens, $1.00 or after June 15th, 75 cts.

Write for discounts on large orders.

CHAS. KOEPPEN,
Fredericksburg, Virginia.
6-04-tf.

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WIRED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids
Agents for Michigan

3-04-10t

BIG DISCOUNTS on Bee Supplies, Berry Boxes and Crates now while we can serve you promptly. Address

R. H. SCHMIDT & CO., Sheboygan, Wis.

LARGE, HEALTHY, PROLIFIC,

Beautiful Italian Queens sent promptly by return mail at only **50 cts each.** Safe arrival and Satisfaction guaranteed. J. W. K. SHAW, & CO.

7-04-tf Loreauville, La.

Please mention the Review.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

BEWARE
WHERE YOU BUY YOUR
BEEWARE
LEWIS WATERTOWN, WIS. U.S.A.
MAKES THE FINEST

Send for Catalog
The G. B. LEWIS CO.
Watertown, Wis.
U. S. A.

Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

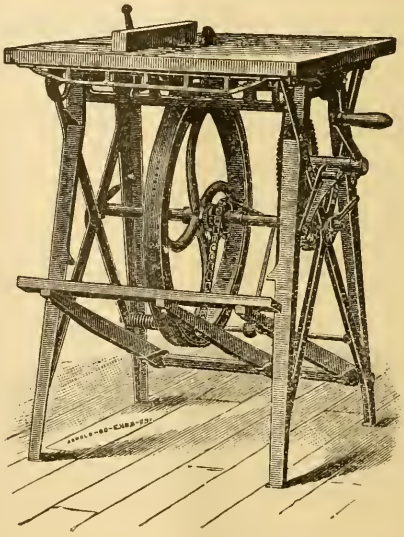
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

4-04-19t





Sunshine on the Marsh Land.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, OCT. 15, 1904. NO. 10.

Holidays and Hobbies, and How They may Help us.

BY W. Z. HUTCHINSON.

THERE is a truthful old saying about the bow that is never unstrung, losisg its strength, and the man who never plays, who never takes a holiday, who rides no hobby, who does the same thing, and keeps his mind in the same channel, day after day, year after year, finally becomes like the bow that is never unstrung—he loses his elasticity and power of execution.

No matter how much a man may love his vocation, if he follows it continually, without a break, he loses his zest for it to certain extent—it becomes "work" to him. as we understand the word. To illustrate, I have a good friend who is a professional photographer (it was he who helped me to make a start in that delightful recreation,) and when I one day waxed enthusiastic over its beauties, how it appealed to one's sense of the artistic, he said: "I passed all that, long ago. The only things that I can now see in it are the dollars and cents." As much as I enjoy photogpaphy, it is quite likely that were I penned up in a studio, and in the dark room, week after week, I would find myself longing for the green fields and the hum of the bees.

No matter how well a man may be adapted to some particular line of business, if he never investigates, tries, nor sees how something else is done, he may sometime become so carried away with a superficial view of it, as to foolishly abandon his old occution for a new one to which he is, perhaps, illy adapted. Had he occasionally "played" with some other line of work, he would have learned something of it, been enabled to compare it with his other line of work, and the brief respites from an endless routine would have sent him back to his regular work with renewed vigor, interest and pleasure

Most of my readers know that photography is my hobby. Let me give just one illustration of how I ride it.

Nearly all of the pictures I take (not all photographs are *pictures*), are conceived or formed in my mind long ere I lay hand to the camera. For instance, I had long had in mind the making of a marsh scene. I wanted a few rushes and a winding stream in the foreground, a few trees at one side, and some woods in the background, and, above all, a sunlit sky decked with clouds. I had in mind the bringing of the focus close to the camera, giving the middle distance and background a diffusion of focus, or softness, which creates an atmospheric effect—makes the background look as though a long way off. Viewed at a distance the picture would somewhat resemble a painting. I even had a title chosen for it "Sunshine on the Marsh Land." As I travelled about the country, I kept an eye out for my marsh picture. At last I saw it from the car window, and I recognized it instantly. I kept the locality in mind, and when the ideal day came, I packed the camera and was off.

I reached the locality a little before noon, left the camera at the station, and started out to find the best point of view from which to take the scene. Wading through tall grass, with a hot July sun overhead, stumbling along from bog to bog, thrusting first one foot and then the other down into some hidden muskrat hole, and pulling it out all dripping with black mud—probably all this does not seem very pleasant to the majority of people, but I was enjoying an enthusiasm that regarded such mishaps as the merest trifles.

At last the spot was found, and I hurried back for the camera. It was now past noon, but I couldn't wait for dinner, as the sunshine was now falling in exactly the best direction. After the camera was all set up, it seemed as though the opposite bank of the creek would furnish a better view. I pulled off my shoes and stockings, rolled up my trousers, waded across, and found it was a better view.

Towards night I reached home tired, hungry and sadly bedraggled; but where, oh where, were the worries and perplexities of business? Swept away, as a rollicking breeze sweeps the dust from the street. Then, the next morning, there was another pleasure in store; that of sitting down to work with a brain that, for one day, at least, had been completely relaxed.

FLINT, Mich., Sept. 14, 1904.

How to get Better Prices for Honey at Wholesale.

BY E. D. TOWNSEND.

SHALL we sell our own honey, or send it to the overcrowded city commission merchant, is the question that confronts all honey producers as soon as they begin to produce more than enough honey for their own and neighbors' use. The editor says that when our honey is produced and ready for the market, our battle is only half half won. I suppose every one will interpret this according to their ideas of selling honey, but there is no question in my mind, that he intended to convey the idea that we were all to

sell our own honey as nearly direct to the manufacturer or consumer, as it is possible to do, according to each one's ability as a salesman.

THREE METHODS OF SELLING HONEY.

There are three ways that the great bulk of honey reaches the market, from the producer's standpoint. First, through the commission houses; second, the bee-keeper that lives near a large city, or otherwise has a good home-market, and has the time and ability to bottle, and put up in small packages, either to retail or to wholesale to the grocery store; third, the most practical method of all, for the average bee-keeper, no matter *where* he lives, is to sell his own honey, direct to the baker, druggist or city city bottler, thus saving freight, cartage and commission; in other words, selling to the commission man's customers. There is another middle man I wish to mention, and that is the man that buys honey to re-sell in original packages. He works something like this: he pays, say, 7½ cents for clover, extracted honey, delivered at his place of business; then he sells this same honey, to the same man *we* ought to have looked up, at, say, 8 cents, at his place.

Now the object of this article is to explain how the producer can get the 8 cents on board the car, or, in other words, save the producer this ½ cent and perhaps as much more in freight. The bee keeper ought to have a letter file, in which to preserve all letters received in regard to any honey deals. The first thing to do, however, is to procure a mailing list of desirable honey dealers. Farther on it will be explained how to procure this list.

THE "EASY" OR COMMISSION METHOD OF SELLING HONEY.

Let us first consider the commission method of disposing of our honey. This might be termed the *easy* method; all we have to do is to can, or crate, if comb honey, nail on the tags (the commission man furnishes them) deliver to the depot, and *our* part of the work is done; then, *sometime*, we will receive a check. Easy, isn't it? Let us figure a little. It is estimated, and I have never seen it contradicted, that if comb honey sold through the commission man brings 14 cents a pound, the freight, cartage and commission will bring the net price down to about 10 cents a pound for the bee-keeper. Now we have some customers who will give us a cent a pound more than the regular quotations for our honey *on board the cars here*. We do not suppose our No. 1 comb honey is very much better than the commission house, No. 1, but these people say they know what ours is, and are willing to pay the difference. Now it is not a very difficult matter, with these figures before us, to figure a nice profit by selling it ourselves. The difference between 10c and 15c, or 50 per cent. on the deal, is worth looking after. There is, however, a class of bee-keepers who will always patronize the commission man. They do not care to go to the trouble of looking up customers. They would rather take less and have some one else do the work; so the commission man is here to stay, and fills a niche we can ill afford to dispense with. The above might be termed the *low price easy* method.

THE METHOD WHEREBY BEE-KEEPERS GET THE BEST PRICE.

The second method of disposing of one's honey, direct to the consumer, is only available with the few that are located near the large cities, or otherwise favorably located, where honey brings a good price. They must have a little tact, and ability as salesmen, then put up their honey in small packages for home, or grocery trade.

These bee-keepers realize the top of the market for their honey. They may be called the favored few, who get the *best* price for their honey.

CUTTING OUT ONE MIDDLEMAN AND IMPROVING THE GENERAL MARKET.

The great majority come on the last list. They are perhaps a long ways from market. After they have taken pains to produce a crop of fine honey and if it is the best grade of extracted honey for table use, it is put in 60 pound cans; if dark in color, or "off" in flavor, so it must go to the baker, perhaps barrels are best. If it is comb honey, case it up early, and be honest in grading. If there is any question in your mind about a section grading No. 1, put it in No. 2. Make each grade a little better than your competitor's. Don't think for a minute, that you will not get paid for it. You see, we are going to try and tell you how you can get a good price for your honey, and, at the same time, build up a reputation that will never leave you. "Once a customer always a customer," should be your motto, in all your honey deals. Produce a good article, put it up in good shape for the market, then last, but not least, *ask a good price for it.* Of course if you get your price too high, it may sell slow; perhaps so slow that you will have to lower the price before it will move, but before you lower the price do a little hustling. We will suppose you have been letting some one else sell your honey for you in the past, but have decided to change for the better price method. You are not acquainted with the honey trade, and you will need the addresses of the manufacturing druggists, the honey bottlers, and then there is the baker. Your local druggist can likely furnish you the addresses of the druggists, and your groceryman those of the bakers, and the bee journals reach probably all of the bottlers, and most of the bakers and druggists, so a little notice there will likely bring you orders.

DON'T CHARGE FOR SAMPLES.

You will need some sample mailing blocks, as most of them buy extracted honey by sample. Now a sample block and postage will cost you about 10c, each sample you send out, and there will be a temptation to charge for this sample. Don't do it. You want to place a sample in every dealer's hands, who is interested enough to ask for it. The few that order samples out of curiosity will not amount to over 5 per cent., so this element is not worth considering.

Instead of charging for our samples, we figure to get our pay out of the advance price we receive for our honey. We have been making a little mental calculation, and have come to the conclusion that we received about $15 each, for the samples sent out last year, above what would have been received had we sold our honey through a commission house at the market quotations.

CAUTIONS TO BE OBSERVED IN SHIPPING.

We will suppose the orders are beginning to come in. A few of the small orders will be accompanied by money to pay for the honey. Then there are others that you know by reputation, that you will ship to without money in advance. The probabilities are these known dealers will simply say ship so and so, depending on their good name as sufficient security. Thus far everything has worked lovely, but you will probably receive orders from parties that are perfect strangers; some of them will furnish references. Just a word now, in looking up these references; do not fail to enclose a self addressed stamped envelope, and leave margin enough below your inquiry, for their reply. If, after looking them up, you conclude they are all right financially, you can ship them. But, if you have any doubt of their integrity, or if they do not furnish reference, the better way will be to ship C. O. D. Then there are others who prefer to pay on delivery; so it will be well to describe this method of shipping goods. It might be

added that this plan is used very extensively in the commercial world. Generally it is as follows: The railroad company that we ship over furnishes us blank bills of lading. Under the head of "marks, consignee, etc.," we write "to order of E. D. Townsend, St. Paul, Minn., notify Paul Jones, 304 Short street." Now after the railroad agent signs it, we make out our bill for the honey, pin this shipping receipt to it, then take it to our banker and have him draw on Paul Jones, for the amount. As the honey is shipped to ourselves, Jones cannot get it without this shipping receipt, and as he has to pay the bill for the honey before he can get the receipt, we are perfectly safe. All the risk we run, is the possibility of his not taking the honey, and causing loss in freight, unless we can find a customer for it there. If there is no bank at one or the other end of the route, there is always an express agent where there is a railroad depot, and he will do your collecting the same as the bank. Which ever way we ship when sending our bill to Mr. Jones, we tell him through which bank or express company of his city we have drawn on him. I might add that in all the honey we ever shipped in this way there never was a lot refused. You see, there is no object in anybody ordering honey unless he wants it; and, if we always sell by sample, we have no trouble about quality of honey. The fact is, we have had such good luck shipping this way, that we never hesitate whenever requested to do so, without *any* money in advance, as some require.

In conclusion let us repeat, produce a good article, have your white honey ready for the market not later than August 15th, be honest in your grading and weights, don't try to deceive your best friend, your customer, by trying to work in a few sections of No. 2 with your No. 1. It might be tolerated once, if it were a small shipment, but, next time when you offer him more, he will quite likely offer you a No. 2 price, for what you call No. 1.

REMUS, Mich., March 15, 1904.

Laying the Foundation for an Extracted Honey Trade.

BY C. F. SMITH.

IF the statement once made to me by the Editor of the Review is true, viz., that only about 10 per cent. of the extracted honey is used as a table sauce (the other 90 per cent. being used in bakeries, etc.,) and if his efforts to develop the great, unoccupied, wild red raspberry, honey fields of this and adjoining States should prove successful, and the apiaries be maintained in good working strength by the employment of modern philosophical ideas on the wintering problem, born of experience in this rigorous climate, then it is high time that our city markets be developed, and the condition reversed, as it is in my market; 95 per cent. going on the children's bread instead of into the cake.

For nearly twenty years I have kept our groceries supplied with my best honey, in glistening labeled glass, yet

not a day passes that I cannot sell more extracted honey than all our grocers together can sell in a month! What does all this mean? Exactly this, that tons and tons of honey went to the family table to the everlasting pleasure and benefit of thousands of children, and many older people too, that would have been thrown on the general, already glutted market.

THE STIGMA OF "PEDDLING" PREVENTS MANY MEN FROM MAKING BIG MONEY.

I am lead to believe upon inquiry that there is scarely a city in the State that is canvassed and worked in anything like a systematic manner, for the sale of honey, the same as milk and ice are sold. I don't believe there are half a dozen cities in the United States that are so worked. Big money can be made handling extracted honey. even if you have to buy all the honey. It is only the *stigma* attached that prevents many an American bred man of good business principles from engaging in it. To remove that *stigma* and place the selling of honey on a par with other legitimate, pleasurable, profitable and honorable callings, and if possible render the term "peddling" obsolete, is the first object of this article.

SELLING HONEY AN AGREEABLE OCCUPATION IF RIGHTLY FOLLOWED.

I can scarcely hope to call honey producers to the work of retail selling, owing to that natural antipathy that most men have, but I hope to show you that by removing the causes of the disagreeable features, and pointing out better methods, that there are few more agreeable occupations and none, not even school teaching, will afford such a feast in the study of human nature. I have had a taste of many kinds of work, from being private in a company of post-hole diggers on the M. C. R. R., to that of school teaching, following the latter calling for ten years, and I have not found a work that I like so well as selling honey; and I am no better adapted to the work than the average man. In fact, I did not like it at first, for so rude and unsystematic were my methods that I would rather do two days' logging than one at selling honey.

SELLING OTHER THINGS WITH HONEY.

I keep from 250 to 450 hens, and combine the egg with the honey business, putting up the eggs in the little paper carriers holding one dozen each, going over a regular route weekly. I intend to extend the honey business to the extent of several hundred colonies. I also handle maple syrup in gallon cans in its season; getting a fine article of known purity, early, from southern points. I have sold as many as ten gallons an hour, at times realizing as much as 50 per cent. profit, but of course the proper way is to take orders in winter, from sample.

Honey is of slow sale in the months of June, July and August, so I give most of that time to my 40 acre farm and the bees.

THE NECESSITY OF NEATNESS IN A HONEY-SELLING OUTFIT.

If you do not like the business or cannot find the time to sell your honey on regular routes, then there surely must be many men of your acquaintance from whom you could select to do your selling.

In selecting a salesman, look for these qualifications: Besides being honest and having a liking for the business, he should be of good character, clean in mind, person and clothes, a gentleman always, and one who can look and be pleasant whether he feels that way or not. The clean and neatly dressed salesman can sell food stuffs to any body, people of all classes, while the collarless, dirty finger-nailed sloven can sell only to *his* class. I knew an old man of the latter class, who went into the milk business, and, not being quite contented with what filth he could carry

on his person, he also carried a very old pipe in his mouth on his daily rounds, all of which got more or less mixed with the milk. He quit the milk business in a short time. Of course if you should sell your own honey, then these remarks may apply to you. Remember that not only your own appearance but that of your cans, pails, horse and whole out-fit influence the buyer.

UNRIPE HONEY A GREAT DRAWBACK.

A dislike of, amd a failure in the business of selling extracted honey is due mainly to two causes: 1, unripe honey, and 2, in going where you are *not wanted* and not knowing where you *are* wanted.

The great prerequisite to success in extended honey selling is a well ripened, full-flavored honey. It is a disgrace to our calling and a continual menace to our business, that many prominent bee-keepers continue to advocate the extracting of honey when only from one-half to two-thirds capped, and that other ridiculous notion of artificial ripening. Honey gets that desirable honey-flavor *in the hive*, and you can no more give it that flavor in the drying room than you can give the lemon flavor to the pie without the lemon.

You may fool some of your customers part of the time, but it is only a question of time when they will begin to talk in this strain: "Our folks don't seem to care for honey any more, we've got some of the last yet." I want them to say: "That tastes like honey, I know it is pure" and "the only kick was I got too small a pail."

Good honey sells itself, and gets orders from all the neighbors and distant friends who taste it.

Extracting honey half-capped is mixing good with bad, the good flavor of the ripened portion being gradually absorbed, and finally lost in the wild, rank taste of the unripe; and in a short time it doesn't "taste like honey," and for an appetizing food, the poorest and cheapest syrups are better—"cheaper and better than honey." Bee-keepers should awaken to the fact that we are running up against new and improved varieties of Corn Syrup every year.

If you extract your own honey, see that it is capped "clearn up to de bottom," and if you buy it, insist on your producer doing the same, "and don't let him fool you more than *once*." If the honey comes to you in the liquid state, it should have a full honey taste and flavor.

But its grade is more easily discerned in the candied state. The flavor should be distinct, and the honey should be fine grained, fine as flour, the unripe is coarse grained like kernels of rice, and is flavorless, and their relative values about as 16 to 1. You and some of your readers, Mr. Editor, will remember that I brought out this matter of grain at our State Convention last February. I am glad to know that so good an authority as Mr. Dadant makes the same distinction. (See an April No. of A. B. J.) The uncertainty of always getting well ripened honey causes me to put forth more and more strenuous efforts to produce my own.

PACKAGES TO GET FOR HONEY.

For the grocery trade I put up the whitest and best in labeled glass, and if basswood, the name should be on the glass. I am using at present two sizes, the ½ pint jelly cup and a glass top sealer called the 12 oz. tall Columbia holding nearly a pint, retailing at 15c and 25c respectively. I get them direct from the Illinois Glass Co., Chicago, at a cost of 1½c and 2c respectively. The cap is perfect and so is the jar. I carry the pints in a neat shipping case furnished by the Glass company, holding two dozen, and the ½ pints in one of the same boxes with the bolstering removed, but with five perpendicular cleats on each side, 3¼ inches apart, for the purpose of holding a partition board to keep the cups

from tipping and shucking about after one or more cups have been removed. A case holds four dozen ½ pints, in two layers. Little and often is my motto for the stores and meat markets; and as it is put up hot, I seldom have to take up any candied honey.

PAILS FOR THE ROUTES.

In the good old white pine days, I put most of my honey in the 7 pound (5 pound lard) pail. These were put in a tight close-fitting, homemade cupboard (double decked) which held 24, and in which they fitted so tightly that they could neither tip nor lose their covers. I counted it one afternoon's work to distribute these 24 pails in the vicinity of a big busy mill at one dollar each, and gather up my pails of the previous trip. But all this has changed. The pine is gone, and with it the 7 pound pail, and I now find that I can sell more tins of honey in 2 pound and 4 pound pails at a shilling a pound. The Jones 2 pound pail is good but costs more than the 4 pound (3 pound lard) pail with my own name, a straw skep and pure machine extracted honey in bronze on the pail—only 5¼c direct from the Brecht Butchers' Supply Co., St. Louis, Mo.

In the matter of packages and advertising, the National Association certainly has something in store for us, and we should lose no time in connecting our name with it, and make it strong, even as the Grange is strong, and is now supplying us with so many farm commodities at little more than one-half trust-prices.

I find that the size of package is quite a matter of habit on the part of consumers, and I mean to yet sell honey in the gallon cans and pails and even in the 60 pound cans, and to the rural people too

I have little faith in the brick, or paper sack idea. Candied honey in sacks would have to be sold for enough less to pay for the melting and pail too, and is not adapted to the route method, as we want as many *excuses* to *go back* as possible. It might do for the grocer, say 3 pounds for a quarter, as against two pounds in the pail.

Next month I will tell how I form and maintain my honey routes.

CHEBOYGAN, Mich., Aug. 31, 1904.

The Requisites for Successful Wintering of Bees.

BY HARRY LATHROP.

THE wintering problem is one of great importance in all the Northern States, and winter losses have discouraged many a bee-keeper who started out with enthusiasm. No one with only a few years' experience would care to speak with much confidence of what he has done, for fear that a heavy loss in the future may dispel the delusion that he had solved the problem and mastered the situation.

WINTER LOSSES THAT ARE AVOIDABLE.

I have been wintering bees for twenty years, and consider that my success entitles me to draw a few conclusions from the experience of that of the past. I can say that in all that time I have not lost any colonies the

loss of which could not have been *avoided* by attention to certain conditions which appear plain to me. In considering winter losses I wish to ask this question: why is it that one colony will come through in good shape and another die when both are exactly alike as far as hives or protection is concerned? Must we not conclude that the cause of death in one is due to some defect in the colony? Could not a large percentage of the winter losses that are reported be accounted for by the statement that the colonies are not in a normal condition? One cannot lose what he never had. Too many colonies are reported lost that were short of stores, or the stores were not in the proper position in the hive, or the colony had a poor queen, or was queenless, or the bees were all old and ready to die when they were placed in the cellar.

If I put a worthless stock in the cellar to take chances, I can hardly speak of its death as a "winter loss."

What we want to go into winter quarters with is, colonies that are strong in young bees and well provided with stores. In order to have such a condition we must work toward it and not put off all effort till the end of the season. All summer long, as we work with the bees, we should keep in mind to have the colonies in good shape for winter.

There is no mystery about the loss of queenless stocks or those that starve, or those that die from dysentery caused by using sour or unripe honey or stuff stored from some cider or cane mill. Could not many of the losses reported be accounted for under one of these heads?

Some one has made the statement that white honey is the only proper thing for winter stores. We all agree that it is good, but I have found that good ripe honey from autumn flowers such as heartsease, golden rod, asters, sunflowers, buckwheat, etc., is all right to winter on, and I always depend largely on this amber honey except on fields that do not produce it.

I like to leave the store combs on hives that are run for extracting until along in the fall, both for the protection of the combs and in order to catch any surplus that may happen to come along. It often happens that the brood chambers of such colonies will contain little or no honey at the close of the season. In such a case we must go through them some warm day in October and place some well filled combs below.

If at the time of putting the bees away I find some that are too light, and I have no more combs of honey, I put on a super of No. 2 comb honey full or part full according to the needs of the colony.

There is much to be thought of before we come to the question of

PROTECTION,

yet it is all very simple; only giving heed to certain conditions that should be pretty well understood by this time.

Under-ground winter repositories seem to be the most popular in the North, and yet I believe that a double wall containing four inches of dry leaves, and the same on top, will make safe wintering out of doors if other conditions are right. Last winter was said to be a hard one on outdoor wintering, but I wintered a number that way. I lost one from lack of stores and one from the depredations of mice.

ADVANTAGES OF OUT DOOR WINTERING.

I should like to winter more that way if it were not for the cost of making outer shells. The advantages are that one can prepare the colonies for winter at any time during the fall and have no more trouble with them, escaping the hard work of carrying them into and out of the cellar. The bees get early flights and first pollen which is a relief to the bee-keeper if not an advantage to the bees.

IMPROVING THE ATMOSPHERE OF A DAMP CELLAR.

I have made several wintering cellars in side hills that did good service, and have a cellar under my dwelling at Monroe, Wisconsin, that is all right. An underground repository should be comfortable to the bees. Bees are just like men in one respect; they live by breathing, and they cannot be contented in a damp, foul-smelling atmosphere. The repository may not be dry throughout, there may be water on the floor or running through the room, but the air must be good. A dry well-protected cellar, one not subject to sudden changes is the best. One way to help a bad cellar, supposing you find it too damp and mouldy on paying it a visit along in the winter, is to put a foot or so of clean, dry, oat straw in the bottom. As to the effect, I ask you, supposing you were compelled to stay in that cellar a few days and nights, would not that load of straw go a long way toward making you comfortable? Bees do not ask to have the temperature of the room as high as you would want it, but otherwise the air should be as pure. The straw is a good means of absorbing surplus moisture and making better conditions.

A dry earth roof is also a good absorbent, and I regard it as the best covering for a bee cellar. It will not contract mould nor dry rot as sawdust will many times. Its office is to absorb moisture from below and give off no bad odor.

To sum up, we want good queens, plenty of bees, and plenty of sealed stores as a preparation, and comfortable quarters for winter.

BRIDGEPORT, Wis., Aug. 12, 1904.

Editorial

THE AMERICAN BEE JOURNAL has some neat, new department headings.

TEXAS BEE-KEEPRRS feel that it is now their turn to have the next National convention.

OVERSTOCKING will ever be an interesting subject of discussion. E. F. Atwater of Idaho writes that Mr. G. E. Dudley of Caldwell, Idaho, has secured a fair crop of comb honey from an apiary containing 400 colonies. Mr. Atwater says that he shall increase some of his apiaries to 200 or 250 colonies each.

HOW FAR SOUTH are cellars used for the wintering of bees? This a question that a subscriber would like to have answered, and I am somewhat interested myself. Will every man who winters his bees in the cellar and who thinks he is pretty far South, please write me.

FOUL BROOD is much more easily controlled when comb honey is produced than in the production of extracted honey, and one of my subscribers would like to have some one tell exactly how to produce extracted honey, going into all of the details, in a locality where foul brood is rampant.

HARMONY prevailed at the St. Louis convention to an extent that is seldom equalled and never excelled. Both in and out of the sessions, not a harsh, or unkind word or criticism was heard. President Harris is certainly to be congratulated upon the kind, thought-

ful and tactful manner in which he administered parliamentarian justice.

MUCH WORK was accomplished at the St. Louis convention, because the common practice of deliberative bodies, of referring important subjects to committees for consideration was adopted. When some topic began to "string out" to an unusual length, some one moved that it be referred to a committee, who could consider it carefully and report later, and the convention passed on to the next subject.

A NATIONAL HONEY EXCHANGE was born at the St. Louis convention. Five practical bee-keepers, widely scattered over the country, were chosen as a committee to draft a constitution and by-laws, and something like $700 worth of stock, at $25 a share, was subscribed for on the spot. This may be the entering wedge that will eventually raise producers to a higher plane in the selling of their honey.

AS A REPRESENTATIVE gathering I think the St. Louis meeting is entitled to the palm. There have been one or two larger gatherings; that at Los Angeles last year, had a third more in attendance, but at least four-fifths of those present were from California. At St. Louis, there were no very great number from any one State, but they came from nearly every State and Territory.

SUGAR for winter stores receives the following recommend from Mr. E. D. Townsend. In a private letter he says: "I want to add to my testimony in favor of sugar syrup for wintering bees. That is, I would feed enough for their winter use. I fed ten pounds to each colony, last fall, at the Pine Lake yard, and this apiary produced almost twice as much honey this year as the Eldred apiary produced, which was fed no sugar, yet both apiaries were in the same condition last fall. How is that?"

THE ST. LOUIS FAIR is of course the "greatest show on earth," but is surely deficient so far as exhibiting the progress of apiculture is concerned. There seems to have been a lack of perseverance, energy, push and unanimity of purpose on the part of bee-keepers. "What was everybodys' business was nobody's business." As a result only a few of the States have any honey on exhibition, and it is not all in one place as was the case at Chicago and Buffalo. Part of the apiarian exhibits are in the Agricultural building, part in Horticultural building, and others in the State buildings.

ENJOYMENT OF NATURE has always been a *great* enjoyment with me. I love the quiet and beauty of the country, while the wildness of the woods appeals to me strongly. In my recent visit to St. Louis, I think the hustle and bustle of the enormous crowds came as near making me homesick as I ever was in my life. This brings to my mind a remark that Dr. Miller once made in a convention. He said many a city man looked forward for years to the time when he might go out in the country, live there and enjoy himself, and while we bee-keepers might not become so rich as the city man, we were all of the time enjoying the very things of which the city man found it necessary to deny himself.

PAPER PROTECTION, for colonies wintered out of doors, was mentioned in the last Review. A Mr. Byer, of Ontario, not having had very good success with hives so protected. Since the September Review was sent out, Mathilde Candler, of Cassville, Wisconsin, writes me that last winter she wintered 45 colonies so protected; and, while they came through weaker in

numbers than colonies packed in sawdust, they built up well, and, by the opening of the honey harvest, were the equal of any in the yard. The winter before she had 14 colonies protected by paper, and they came out the best in the apiary. This year she is going to winter 100 colonies with only the paper packing for protection.

THE MANUFACTURED COMB HONEY CANARD received due attention at the hands of the St. Louis convention. A resolution was passed authorizing the Association to forfeit $1,000 for specimens of artificial comb that would deceive an ordinary honey expert. I doubt if the convention had the power to offer to forfeit such a sum, as the paying out of money in such matters in the hands of the Directors, but the publication of such a resolution may do no harm.

A committee was also appointed to keep watch of the publication in newspapers of the said story and report it to the General Manager, that he may look after it.

To illustrate the difficulty of dealing with the subject in the general press, let me give one little instance: At the end of the first day's session the press committee prepared a short item giving the principal doings of the day, and telephoned it to the daily papers. Wishing to do all possible to counteract the manufactured comb honey story, it was mentioned that the stories about artificial comb honey were severely condemned, as untrue and working an injury to the industry. The next morning we were horrified to find in the report, the following: "The delegates were about equally divided as to possibility of manufacturing comb honey." Perhaps I have not worded it exactly, but that is the sense of it. The mistake probably came about from the difficulty of hearing correctly over the 'phone; coupled with the knowledge of the old story. The next day the committee wrote out a most emphatical denial and explanation, and, not trusting to the 'phone, sent one of their number to the office of the paper. The article appeared together with the head that had been written by the press committee, but the editor could not resist the temptation to put in a sub-head which said that "The bees cannot be deceived by the machine made product." This took the sense all out of the explanation, and still left the impression that there is a "machine-made article."

Still another explanation was sent to the editor regarding the misleading sub-head. What will be the final result I don't know, but it will be seen that the difficulties in the way of correcting this falsehood are something requiring endless patience and persistence.

NOMINATIONS FOR OFFICERS.

The postal card votes for nominations have been counted and the two men receiving the most votes for each office are as follows:

To succeed Jas. U. Harris, as President, Jas. U. Harris and C. P. Dadant.

To succeed C. P. Dadant as Vice-President, C. P. Dadant and J. F. McIntyre.

To succeed Geo. W. Brodbeck as Secretary, Geo. W. Brodbeck and W. Z. Hutchinson.

To succeed N. E. France as General Manager, N. E. France and Louis Scholl.

To succeed Director Whitcomb, E. Whitcomb and H. H. Hyde.

To succeed Director Hutchinson, R. L. Taylor and J. Q. Smith.

To succeed Director Toepperwein, U. Toepperwein and E. S. Lovesy

Let all remember that the foregoing is, in effect, simply an informal ballot, and carries with it no obligation. Each member is still as free as ever to vote for just whomsoever he pleases.

ADVANTAGES OF ASSOCIATION.

The National Association has not yet been able to assist its members by purchasing their supplies at wholesale, or by selling their honey, although it has aided them in both ways, indirectly, but there are several local associations which have been of decided benefit to their members in the matters of buying and selling. For instance, the President of the Inyo County, Cal., Association writes me that, during the past two years the Association has purchased all supplies at wholesale rates, and sold the honey for cash upon delivery at the railway station. The money value of the transactions reached about $50,000. The members have received their goods at much lower rates, and sold their product at a decided advantage. He believes that they have as simple and practical a plan for a local organization as that possessed by any association in the country.

SOME BRIGHT EXAMPLES.

Nearly every school boy has been told that if he studied hard and was a good boy, he might become a great man, possibly the President of the United States. Bee-keepers have been told how Adam Grimm made a fortune out of bees and started a bank; W. L. Coggshall with his hundreds of colonies, and thousands of dollars in the bank, has been held up as a shining example; and now M. A. Gill, of Longmont, Colorado, is producing comb honey by the car load, year after year. In reading over the proof sheets of the statistical table that is being published by Manager France, I see that Mr. Gill has this year produced 70,000 pounds of comb honey. We may not all be able to attain these grand successes, but the pathway that leads to them is plain. A good locality, a large number of colonies scattered in several apiaries, and some short-cut method or system that enables a few persons to do the work by visiting the apiaries at regular intervals. The simplicity of the plan is astounding, and it can be followed by any one who has the necessary ability, enterprise and "nerve."

SPECIALTY VERSUS MIXED BEE-KEEPING.

At nearly every National Convention this question of specialty versus mixed bee-keeping comes up, and there is always present a class that resents any attempt at showing the advantages of specialty. This class seems to think that the farmer bee-keeper is the "whole thing." Then as a clincher, those are asked to stand up whose sole source of income is bee-keeping. Three years ago, at the Buffalo meeting, I believe one man stood up. Dr. Miller was not allowed to stand up because he received pay for writing articles for the bee journals. A bee-keeper who kept a cow, or a few hens, or had a garden, was ruled out. At St. Louis four men stood up and said their sole source of income came from bee-keeping and no amount of quizzing could down them. It seems to me that this sort of argument is not exactly fair. It is difficult to find many men in any business whose whole source of income (every cent) is from that particular business. To be fair, the *specialists* ought to be compared in numbers with those who are following a mixed business. When it is self-evident that greater success comes from specialty in *any* line of business, I am at a loss to understand why any one should wish to combat the idea.

THE KEYNOTE OF THE ST. LOUIS EXPOSITION.

Each National convention is different from the others. Through it runs a key note, or a motif, as they say in music and painting, a predominating chord that colors the whole composition. The St. Louis meeting is de-

scribed by only one word and that word is BUSINESS. Possibly some who went there to hear "bee-talk," were disappointed, as scarcely anything was said about manipulation or the production of honey. There was at least one man who was not disappointed, and that was myself. For years I have talked and worked and written to induce bee keepers to pay more attention to the business end of bee-keeping. I have contended that, if there was any honey in the fields, we knew how to secure it in marketable shape; that the bee journals have for years taught manipulation and production to the almost total neglect of the business part of the occupation,—to the buying of supplies, the advertising and selling of the produce, and the securing of needed legislation, and now for the National Association to devote a good share of the time to these subjects, is a decidedly hopeful symptom.

THE NECESSITY FOR BROADNESS IN ATTAINING THE HIGHEST SUCCESS.

The editor of the Cosmopolitan was surprised at the sameness and commonplace of the exhibits in the art department of the St. Louis fair. He decided that this result came from art students simply being copyists. They are taught technicality and copying, but not encouraged to be original, to study life and mankind as well as painting, to think, to branch out in new paths.

As is often the case, I tried to apply the lesson to our pursuit. It seemed to be about like this: The journals and leaders have taught *manipulation* and *detail*, and said very little to encourage bee-keepers to branch out and think, and do for themselves. Just now bee-keeping is being taken up on broader lines; men are broadening out and keeping hundreds of colonies and making dollars where they once made cents, yet the journals seem very slow in encouraging this plan of bee-keeping. Even the bee-keepers themselves frown upon the "keeping of more bees." To my readers let me say, with all possible emphasis, don't be mere copyists and imitators. Do some thinking for yourselves. Try and comprehend the possibilities that are in store for you if you will only arouse yourself to the changed conditions.

SOME BEE-KEEPERS MIGHT EARN MONEY WINTERS BY WRITING ARTICLES FOR AGRICULTURAL PAPERS.

What bee-keeper has not noticed the poor class of matter that appears in the apiarian departments of many of the agricultural papers? It contains little really helpful information, while much of it is absolutely misleading. And this brings to my mind the fact that here is a much neglected field which might be cultivated to advantage by many bee-keepers, viz, writing bee-keeping articles for the agricultural journals. Particularly might they do this during the leisure of winter. Such articles might not all be published in the winter, but the bee-keeper could write articles in the winter that would be seasonable in summer.

Not only could many bee-keepers earn money in this manner, but they could help to educate the farmer and the general public. Farmer honey and farmer methods of marketing, are a decided menace to the specialist. Let us do what we can to educate the farmer to adopt better methods. For several years before beginning the publication of the Review I was a regular contributor to the apiarian columns of several farm-journals, such as the Country Gentleman, Rural New Yorker, Farmers' Review, American Agriculturist, etc. There are many others to which I might have contributed if I had had the time. There is a demand for really good matter of this kind.

Here is the way to get work in this line Write two or three articles on some practical subject, and send them to some agricultural journal. Write a letter to the editor, asking him if he would like to have you furnish articles on bee-keeping for his paper, and how much he would pay you for such as he uses. Tell him that the articles enclosed are sent as samples, and, if not available, may be returned. Don't be discouraged if articles are not always accepted promptly, but send them to some other paper. Perhaps many may hesitate about writing because of lack of education. To such I will say that you will be surprised at the amount of "fixing up" needed by a large share of the contributions received by agricultural journals. If the ideas are only there it is an easy matter for the editor to "lick them into shape."

THE INFLUENCE OF LOCALITY.

In my early bee-keeping years, I was often sorely puzzled at the diametrically opposite views often expressed by the different correspondents for the journals. In extenuation of that state of mind I may say that at that time I did not dream of the wonderful difference of locality in its relation to the management of bees. I saw, measured, weighed, compared, and considered all things apicultural by the standard of my own home—Genesee County, Michigan. It was not until I had seen the fields of New York white with buckwheat, admired the luxuriance of sweet clover growth in the suburbs of Chicago, followed for miles the great irrigating ditches of Colorado where they give life to the royal purple of the alfalfa bloom, and climbed mountains in California, pulling myself up by grasping the sage brush, that I fully realized the great amount of apicultural meaning stored up in that one little word—*locality*.

The basic principles of apiculture are the same the world over, but the management must be varied according to the locality. In the South and extreme West, the wintering of bees is easily accomplished; it being necessary only, to see that they have sufficient food. As we go North, some protection must be given—either by packing or by the use of chaff hives. As we go still farther North, successful wintering is secured, as a rule, only by the use of first-class winter-stores, and putting the bees into a cellar.

In Cuba and Florida the honey harvest comes in the cooler part of the year, or what corresponds to our Northern winter, and those varieties of bees that will breed late in the summer, even though little or no honey is coming in, are more desirable; as more populous colonies are thus secured at the opening of winter. In the Northern States, east of the Mississippi, the main honey-flow comes, as a rule, early in the summer. It may be very abundant, but is seldom of long duration; for this reason those varieties of bees are preferable that rear brood very abundantly early in the season, and then slacken breeding as soon as the main harvest begins. In some parts of the West the honey harvest is much longer than in the East. There are no such rapid flows as we have here sometimes from basswood, but there is a steady flow that may last for months; the conditions being ideal for the production of comb honey, as there is abundant time in which to build combs for the storage of the honey, fill them and seal them over.

In the white clover and basswood regions, swarming and the main honey harvest come at the same time; in some parts of the Southwest, swarming comes on with the flow from the early, minor honey plants, and is almost entirely abandoned with the advent of the heavy honey flow that comes on later.

The question of large versus small hives, over which there have been so many spirited discussions, is largely one of locality. In the cooler regions, where the harvest is early and short, small hives find favor, especially in comb honey production, while the large hive is a favorite in the warmer regions that are blessed with a long honey-flow.

Which the bee-keeper shall produce, comb, or extracted honey, is also largely a question of locality. Where the main honey flow is short, as it often is from basswood, sometimes lasting only a few days, there is not time for the bees to build combs in the sections, fill them and cap them over, before the harvest is over and past. With full sets of drawn combs in the extracting-supers, a good crop of extracted honey may be secured within a week. Such conditions as this exist in many parts of Wisconsin. Where honey must be shipped long distances to market, as is the case in Cuba and and California, one very important reason for producing extracted honey is that there is so much less danger of damage in shipment. Dark honey is, as a rule, much more saleable in the extracted form. When the flow is light but constant, and of long duration. as in Colorado, and the honey is white, comb honey production has its advantages, as honey is worth more when stored in sections than when taken in the extracted form.

California furnishes the most immense crops of honey that are anywhere produced, but they are entirely dependent upon the rainfall that comes in the winter. If the rains fail to come the bee-keeper knows to a certainty that, not only will there be no surplus, but, unless the proper management is given, his colonies will perish from starvation.

In the buckwheat regions of New York, not much dependence is placed upon the early honey-flows for securing a surplus. They enable the bees to breed up, and, as a rule, finish their swarming, before the buckwheat opens, when the main crop of the season is gathered. A colony so weak in the spring that it would be nearly useless in a flow from clover or basswood, has abundant time in which to build up for the buckwheat honey-harvest.

Then, again, there are localities near swamps, where the main flow comes very late, from fall-flowers, asters, and the like. The yield is often very abundant, but the quality is undesirable when used for winter-stores. If the cold confines the bees for several months upon such stores, they are almost certain to perish. The only remedy is to extract the honey and feed sugar syrup; unless it might be that of brimstoning the bees in the fall, and buying more in the spring from some other locality, a course which has been followed successfully, as the long season for preparation allows of the building up of one colony into several.

It would be an easy matter to use pages in giving illustrtaions of the differences in localities but it is unnecessary; the thing for the bee-keeper to remember is that if he changes his locality he must leave behind him many of his old notions and methods, and seek the advice of his new neighbors who have been successful. The veteran bee-keeper from the verdant hills of old Vermont would make a flat failure were he to bring his apiary to Colorado, and manage it the same as he has been accustomed to doing. A bee-keeper cannot know his locality too thoroughly. Some men succeed in localities where the majority fail, and one reason is because their more thorough knowledge of the locality enables them to adopt methods more perfectly adapted to the peculiarities of that location. Above all things *know your locality.*

PREPARATION AND PLANS.

Their Importance in the Success of Life.

I have frequently referred to the importance of carefully thought out plans, and equally careful and thorough preparation for carrying them out, and my attention was again called to the matter to day by an article in the daily paper setting forth some of the whys and wherefores of Japanese success in the present war. While there is a vast difference between the battles of life and the battles of war, there are also many parallels. The same might be said of business and warfare.

To illustrate, let me quote the opening paragraph of the article to which I have referred. It says:—

The lessons of the campaign are a text constantly before the eyes of the military observers with the army They have made no revolutionary discoveries thus far; indeed, the chief lesson has been the overshadowing importance of that *complele preparation* which has made every cog of every wheel of that great machine slide quietly into its groove at the appointed minute, and the attention to detail, for lack of which the servants of the Czar are wasting so much brave food for powder.

Allow me to quote one more paragraph:—

Gen. Kuroki is a quiet and unassuming gentleman, rather the Moltke type than the theatrical general who rides about exhorting and cursing his men. His type is apparently the prevailing one in the Japanese. Sometimes it appears he has worked out his plan of battle so perfectly before the event that he can sit down confident of its fulfillment and takes little further interest in the proceedings. During the critical hours of July 31, when advancing across the valley to charge the Russian entrenchments on the heights, he sat in the courtyard of a Chinese temple, chatting casually with members of his staff. A court painter could have made no battle picture there. Gen. Kuroki's force partakes of his character It might be described as the silent army.

I sometimes find myself wondering just how far ahead some of my readers have planned their work.

Have you even a plan for tomorrow? Have you a plan for next week, or next month, or next year? So many men seem to work on and on, day after day, with no particular objective point; no plan; no thought of accomplishing this, and then taking up that, and so on, for *life*. My friend, look ahead; consider carefully the situation; decide what you will do, and what you will accomplish, and what you will be. Are you going to keep more bees, or less? Are you going to be a specialist or are you going to do a variety of things? If a variety, what will they be, and why? Make out a general plan, so to speak, for life, and then begin to plan so that things will "come out" in such a manner as to help this plan. Of course, plans sometimes fail, but the man who plans stands a much better chance for success than the one who works in a hap hazard manner. How often do we hear some man exclaim: "If I had only made calculations, I might have done so and so." Make calculations. Plan; and then remember that "preparedness is the secret of most successes."

Just a few more words on this subject of planning. It may sometimes be advisable to sacrifice present advantages for the sake of future success. A young man may go to work as a common laborer, and, at the end of a few years, lay up more money than the young man who spends some years in learning a skillful trade, or preparing himself for some profession, but, in the end, the man who takes pains to prepare himself for some important life-work, will far out-strip the one who takes up with almost any work that comes along, and that can be performed by almost any one with very little preparation.

SUITABLE SUBJECTS FOR BEE JOURNALS

How Far are "Outside" Topics Allowable?

At St. Louis I sat down near two bee-keepers who were having an earnest discussion. The first sentence that caught my ear was as follows:

"I tell you we don't care what his views are on the temperance question, and he has no right using space in his paper to air his views on the subject. We buy his paper for what it can tell us about bees, and not to learn its editor's views on temperance."

The other man replied: "I don't agree with you. When a man owns and publishes a paper, he has a right to put into it what he pleases, and if we don't like it, we needn't take his paper."

"He has and he hasn't. As owner he has a right to run his paper as he pleases, but the subscriber has some rights, and when he sends his dollar for a bee journal, he doesn't want pages and pages used in discussing temperance, religion, gardening and automobiling, etc."

I expected that he would include photography in the list, but he didn't, but then, he hadn't seen this issue of the Review.

These remarks of my bee-keeping friends called to mind an editorial on a somewhat similar subject that appeared in the American Bee-Keeper for September. I consider it worthy of publication. It reads as follows:—

The fact, long established and unquestioned, that the bee-keeping fraternity is composed very largely of broad-minded, deep-thinking, liberal and courteous gentlemen, is, we are sure, well founded. It is not so very recently, however, that we made the discovery that there are some who are just the least bit peculiar. Though the ratio is, undoubtedly, low, the writer is not so sure that we haven't a slight sprinkling of cranks whose hobbies run counter and criss-cross, in divers ways. Probably there is no other point at which these freak notions and pet hobbies collide so frequently as in the sanctum of the editor of a bee journal.

Every enthusiast, or nearly so, craves publicity for the theories and notions which he so tenaciously adheres to. May be they are sacred truths; that's not for us to determine, unless the subject relates directly to bees or bee culture. This journal cuts out "kindred topics," "home departments," and all other side-shows. We are running a bee journal, solely and exclusively; and yet certain correspondents think unkindly of us because political convictions which weigh heavily upon their minds are not found available. Another who takes a deep interest in religious work persists in infusing his personal beliefs and deductions into his contributions to a bee paper, and calls us narrow-minded because our mission is not the promulgation of religious doctrine. Then, there's the fellow who can't write a paragraph without straining himself to deliver a thrust at those who have espoused Christianity, and mingles his bee talk with sneers and belittling insinuations; and then he is mad clear through because it does not appear in print in the Bee-Keeper. He then feels it his duty to enlighten the editor, at great length, upon the subject of journalistic ethics, and particularly to define the limit of the editorial prerogative. In fact to fully explain why it is that The Bee-Keeper is not more important and more widely circulated. The "reason" is, of course, because we don't know how to run a paper and haven't sense enough to absorb the excellent advice of our eminently competent correspondent.

Now, we had no intention of taking so much space to speak of this matter; but in as much as we are all concerned in the subject matter of The Bee-Keeper, it may be well to exhaust the question before concluding, which may be briefly done.

Every publication has its peculiar style—its likes and dislikes. Our preference, first, last and all the time, is for articles the publication of which will interest or instruct bee-keepers, separate and apart from all "home," religious, political, medical or other foreign subjects. We want to discuss bees. We are always in need of good articles of this kind; but if the reader

has some personal grudge which he seeks to proclaim indirectly, concealed in an article purporting to deal with any apiarian question, send it to some other journal. We don't want it.

We have recently been forbidden to edit the copy of a correspondent, for the reason that unnecessary and uncharitable reference to those who adhere to the Christian faith was cut out, in a former article. It is our most earnest endeavor to treat every correspondent in a fair and courteous manner; but it must be emphatically and specifically understood that if correspondents do not wish the editor to take such liberties with their copy, they themselves should cut out all such lines before mailing it.

It is by no means necessary that matter for publication should be in accord with the editor's personal ideas; but so far as petty "scraps" and religious references are concerned, it must pass its scrutiny. We are not in the business to insult one patron simply to gratify another, nor, indeed, to gratify any clique.

One bee-keepers' society officially notifies this office that unless we see fit to publish any matter entirely as submitted, we must ignore it, and make no comment. This is a most absurd idea. Information relating to public matters which effects our pursuit, and through public channels received, we presume may be freely discussed by individuals or the press. An organization which seeks to throttle free speech, or one which assays to bulldoze the trade press should remove its quarters to other than American soil.

The extreme importance of unity in our fraternal ranks at the present time should overshadow petty squabbles. The situation demands serious unprejudiced thought and consistent action.

OVERSTOCKING.

Locations Certainly Differ Regarding the Number of Colonies That May be Profitably Kept.

A few months ago Mr. E. W. Alexander, of Delanson, N. Y., told us in the Review of the large number of colonies that he had kept with profit in a single locality. He has been condemned by some for thus encouraging the keeping of large apiaries. The Review certainly wishes to give both sides of subject, hence I copy the following from the pen of J. A. Green, and published in Gleanings. Mr. Green says:—

To my mind, one of the most mischievous doctrines that have ever been brought out in a bee-journal is that which argues that there is little danger of overstocking a locality with bees, and that one might as well keep four or five hundred colonies in a place as a fourth that number. It is true that there are localities where this would be good advice; but for one that would be helped by following such advice, I believe there are a hundred who would be harmed. And the worst of it is, those who are harmed most may not be able to help themselves at all in the matter, but are at the mercy of those who thoughtlessly take such doctrine for sound sense.

It is a difficult matter to tell when a field is overstocked. A location may be good enough, during the height of the honey-flow, to support a thousand colonies with ease; yet when the flow begins to fall off a little there will not be enough honey to go around. Times will come when nearly all the honey the field affords is consumed in brood-rearing. In times of scarcity the bees will be consuming more than they can gather. Especially in the spring there will not be enough of either honey or pollen to enable brood-rearing to be carried on as it should be. Heavy breeding will be necessary at times to supplement the lack of natural sources of supplies, and in the end it may be found that the location that, at times, was good enough for a thousand colonies, will not support, for an average term of years, more than 100 colonies with the greatest economy and profit.

My own experience may be interesting, and perhaps shed a little light on the subject. When I came here the location was plainly capable of supporting profitably many more bees than were in it; but as my bees increased in numbers I took advantage of a vacated location to establish an out-apiary of sixty colonies only two miles away from home. It was not as far away as I should have liked; but locations are scarce here, and it was better than nothing. That season nearly every bee-keeper in the neighborhood doubled the number of his colonies, some even more than that. I de-

cided to move out more bees and start another apiary; but before I had my arrangements completed, several new apiaries were started in my immediate neighborhood. It seemed like poor business policy to move my bees out to let them come in, so I kept all my bees at home, with the exception of the one apiary of 60 colonies which I had been obliged to move nearer home, so that it was now only 1¾ miles away, though I felt pretty sure that the home location was badly overstocked. Now for results. The out-apiary, though well within the field of the home apiary, according to most authoritfes, and having the same stock of bees in the same hives, and with exactly the same management, averaged nearly double the yield of honey per hive that those at home gave. This experience taught me several things. First, that the profitable range of bee-flight may be much less than is commonly supposed. Second, it was very evident that the home location had more bees than it could profitably support. Now according to many who have written on the subject, these people had a perfect right to bring more bees into this locality.

All the bee-keepers in the neighborhood own their homes, and none of the apiaries lately established have been large ones. There is no question as to the legal rights of all, and yet the number of colonies in the neighborhood must be reduced or nobody can make as much money from bees as he ought to. Let's hear from Dr. Miller.

Mr. Alexander began the present season with about 550 colonies, built them up to between 700 and 800 and received 75,000 pounds of honey. He does not consider his location an extraordinary one, and feels that he is justified in his views about overstocking. It must not be forgotten, however, that he feeds the bees in times of scarcity.

THE CAMERA.

And Some of the Advantages that may Come from its Possession and Use.

I have often wished that more readers of the Review owned and knew how to use the camera. No description equals a picture, and if more of our leading bee-keepers were the owners of cameras, and knew how to use them skillfully, how their contributions to the bee journals could be brightened and improved. I have often thought of this, and been inclined to write upon it, but now I have found my ideas all very nicely expressed by a writer in the American Amateur Photographer. In the September issue he says:

The greatest aid in literature is the camera.

To some, who have given the subject no thought, this may seem a very bold and sweeping statement. But its truth has been established, nevertheless, by that dearest and most expensive of teachers—experience. The camera cannot make an author—he must be born. But it can do more than any other one thing towards the happy disposal of a well written, though dry article. How many of you are there, and count myself as one of your number, who when opening the crisp pages of new magazines do not first of all look at, admire and weave a story all your own about the illustrations?

This branch of magazine and newspaper work has made wonderful strides towards excellence in the past few years. Ten years ago there was one photograph used for illustration where there are probably a dozen in use now. In fact, as far as my knowledge goes there is only one of the high class magazines that does not use illustrations. They have come to be considered as an accepted fact. Only two of the prominent New York newspapers accept matter without pictures. These are the exception to the general rule. The majority demand illustrations with the articles. A wordy description soon grows tiresome to the reader, but that is all the poor author can do to make one see the picture he is describing. Unless, he is the fortunate owner of a camera, when by simply pressing the button he has captured the whole scene, and given it to you at a glance. Whereas if he had to depend entirely on words to make clear his meaning, whole pages would have been covered.

You not only catch the author's idea faster by using the camera, but he is also able to give you that touch of local color which it is almost impossible to do in the average descriptive

article. Mere words cannot always bring a clear picture of an object to your mind as a photograph does.

Editors, as a rule, plead that they are a much abused body. Whether we agree to this or not, I am sure that if we accepted the editorial chair we would look very favorably on the article accompanied by a number of clear, clean photographs of the scenes or objects described, where on the other hand in opposition is the article of many closely written pages with never an illustration to help tired minds to an understanding of what they are trying to say.

Not only in the disposal of an article does the camera help, but the financial returns are almost doubled. The majority of editors pay, and pay well, for articles accompanied by photographs. Not only this, but there is a constant demand for good photographs to use without any letter text. A number of magazines run picture contests. Four current numbers, picked at random from my pile on the study table, contain notices of photographs wanted. This is surely sufficient guarantee that the usefulness of the camera is on the increase, not the wane.

Now please pay close attention, although this next sentence is put here in the middle of my article, it is of more importance than all the rest.

Buy a good camera; and do your own developing.

More troubles and failures are caused by non-compliance with this rule than with any other in all picturedom. A good camera will pay for itself twice over in quite a short time. You have it when you need it most. If you happen to be writing up the wild flowers of your native State, far better results can be obtained by taking your camera to your flower haunts than by taking your specimens to the camera.

If you have to be at the extra expense of paying a man to do the work, then your purse is indeed to be pitied! besides putting a lot of extra work on your own shoulders.

Another thing to be considered is that photographs are not always to be had when most needed. When you operate your own camera you can take all the time you need to find the best view point for your picture, take as many as you like; then when you carry them to the dark room and dip them in the developing bath you can soon see just what points you wish to bring out strongest. There are fewer more pleasurable feelings than those you have as you bend anxiously over the pan of developer and see the first faint outlines of your picture come in view.

Another pitfall that the author must avoid who depends on bought photographs to illustrate his article, is the copyrighted photograph. This snare catches its prey every day. The owner is liable to demand damages when his copyrighted photograph meets his gaze from some newspaper's pages. Then you get just the same view that every other author does who buys his photographs. You have no chance to show originality, or a new presentation of an old view.

The author who does his own work in photography has ample recompense in the pleasure he gets from his nature work. The health he drinks with every breath of sweet, pure air brings inspiration in its train. He sees life from a better standpoint and its effect is at once noticed, by the editors, in his articles. Then if he happens to be a nature lover, and did you ever see an enthusiastic photographer wno was not? what delight to him is a corner of an old rail fence with bunches of wild purple violets lifting their heads from beds of dead brown leaves, hanging over the edge of a rain-washed ravine, while high over their heads swing the white-hatted branches of the dogwood tree.

Just a few yards further along is a gigantic oak whose roots have risen above the ground and formed odd nooks and crooks with their turns. Here in one of these little root nests a young cedar has sprung into life, resting with the utmost confidence in the strength and shelter of the older, larger tree.

If you saw those pictures with your own eyes, and your trusted camera was ready to hand, how long before those pictures would be yours to take away, soon to send them away on their journey to brighten and gladden others' lives and other's eyes, which surrounded by city walls, cannot feast on country treasures.

The possession and use of a camera need not be the expense that many imagine. Aside from the making of pictures to accompany contributions to journals, as mentioned in the above extract, there are various other ways in

which a camera may be used to profit, as I learned very soon after I began using one. For instance, as soon as I was able to make good pictures, I went to a brickyard that was in operation, and secured permission to take views of the different operations. I got a view of the men loading a cart with clay, of the clay being dumped from the cart into the pit, of the horse going around and turning the mill that ground the moistened clay into mortar, of the man filling the molds with the mortar, of the molded bricks laid out in the sun to dry, of their being built up into a kiln for burning, of a kiln burning, with the black smoke rolling up from the top of the kiln, and of a wagon loading up with the fisished product to haul it to market. Then, at noon, I gathered all of the workers in a group and photographed them. I did all of this with no thought of making any money out of it, but when I was ready to go away the proprietor asked me what the finished prints would be worth. They were 5 x 8 in size and I told him that I would furnish him with all he wanted at 50 cents apiece. He said he would like to see them when finished. I was soon able to show him finished prints, when, to my astonishment and delight he ordered $16.00 worth, and the hands, in the aggregate, ordered about as many more. This opened up my eyes to the possibilities of making money with a camera.

In the first article of this issue I have urged every man to have some hobby, something aside from his regular occupation, something that he does for the love of it, as a recreation, and to the man who has a taste in that direction, I know of nothing better than photography for a hobby. If there is no taste for it don't choose it simply because somebody else likes it. If you should decide to take up photography, get a camera that has a tripod and one that uses plates instead of films.

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Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several of them. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pen and engraving in price from $1.50 to $2.50, depending upon the finish of the handle. My pen costs $2.00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

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PRICES

	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00
Select Breeders, each			$3.00
Two-frame Nucleus and nice Queen			3.00

THE FRED W. MUTH CO.,
No. 51 WALNUT ST., CINCINNATI, OHIO

Shipping Cases

No-drip, 24lb, $13.00; 12lb, $8.00; 20lb, Danz. size or for 4 x 5 sections, $10.00. The $1.00, 1½ story, 8-frame Hives still goes like hot cakes. Sections, Foundation and all kinds of Bee Supplies on hand. Send for list

W. D. SOPER,
R. D. 3 Jackson, Mich.

Red Clover

Italian Queens for 1904. Our strain of bees is gathering honey in every State. They work on red clover as well as on white clover. Untested, 70c each, two for 1.25, or $7.00 a dozen; tested, $1.00, or $10.00 a dozen; breeders, $3.50 to $7.00 A four-frame hive, painted, stocked with bees, brood and a queen, $3.50. We shall keep on hand from 400 to 600 queens, and will be able to send queens by return mail, guaranteeing safe arrival. Send for circular.

G. ROUTZAHN,
4-04-6t Biglerville, Penn.

Please mention the Review.

Try The Case Strain

Of Italians. They make the whitest comb honey; have proved best for extracted, especially in Cuba; and are but little inclined to swarm. Queens are carefully bred by experts. Two firms bought 900 each for their own yards. Our reputation is second to none. We mean to keep it up. We are planning better queens, earlier and more of them, for 1904. Fine untested, $1.00. Select, $1.25. Tested, $1.25, up. Circular sent free for the asking.

4-04 tf **J. B. Case, Port Orange, Fla.**

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office with mine, and is putting in a cylinder press. We both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

I WILL BUY

a few tons of honey and pay cash at your depot, Correspondence solicited. Give full particulars as to quality, sections, when it will be ready to ship, price wanted, etc. If satisfactory I call on you. A. W. SMITH,
80-4-3t Birmingham, Mich.

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

W. M. Cockersham, of Ronda, N. C. manufactures

Bee Supplies

AND REARS

Queens for Sale

at the following prices

	Apr.	May	June	July and after
One Untested,	$1.00	$ .90	$ .80	$ .75
Three "	2.90	2.75	2.50	2.25
One arranted,	1.25	1.10	1.00	1.00
One Tested.....	1.50	1.25	1.10	1.00
Select Tested,...	2.00	2.75	2.50	2.25
Breeding,.....	8.00	8.00	8 00	

100 Swarms for Sale

In a fine basswood and clover location: bees in fine chaff hives with five inches of packing; and there are fixtures for producing both comb and extracted honey. Address 6-04-tf
E. D. OCHSNER, Prairie du Sac Wis.

GASOLINE ENGINE FOR SALE

Hallack & Hartshorn, the printers who have printed the Review for the past two years, expect to put in another large job-press in a month or two, when their gasoline engine that has run their other two presses will not furnish sufficient power to run all three presses, and must be disposed of and greater power put in. This engine is a Bates & Edmonds, 2½ horse power, and cost $125, two years ago, when it was bought new. It is in perfect order, and as good as new, ordinary wear excepted, and would be sold for only $85. It would make an excellent power for some bee-keeper who wished to put in saws and make his own hives, or to make hives for sale. Any one wishing any further particulars can obtain them of

HALLACK & HARTSHORN
Reference, Editor Review **Flint, Mich.**

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers.

Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder

513-515 Mass. Ave.

INDIANAPOLIS, IND.

What They Say!

Hillsboro, Wis.

W. H. PUTNAM,

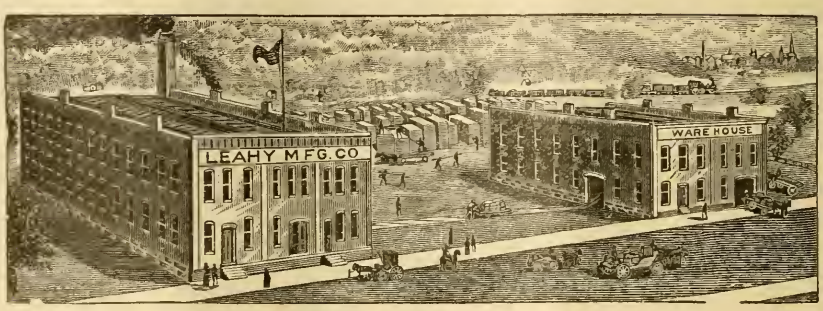
River Falls, Wis.

Dear Sir:—I delayed answering your letter until I had read the June number of the Rural Bee-Keeper, and must say as a Bee-Keeper of 22 years' experience I am more than pleased with it, regardless of the assertions of some that the publishing in this line was already overdone, and if the improvements continue it will certainly be second to none within its first year of publication. I consider the June number alone worth several years' subscriptions, to any practical live bee-keeper and will say let the good work go on and on. You have a good field, and the fact of our having a Bee Journal published in our own state, should be a lasting stimulant to all bee-keepers of Wisconsin and the Northwest, and 50c certainly cannot be invested to better advantage. You may send me some more blanks. Yours truly,

ELIAS FOX.

Send 10c for three back numbers or 50c for one year.

Many Improvements This Year.



We have made many improvements this year in the manufacture of bee-supplies. The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices will be supplied with separators and nails. The Telescopic has a new bottom board which is a combination of hive stand and bottom board, and is supplied with slatted, tinned separators. The Higginsville Smoker is much improved, larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send five cents for sample of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax, and a treadle so that it can be worked by the foot.



The Heddon Hive.

Another valuable adjunct to our manufacture is the Heddon Hive. We do not hesitate to say that it is the best all round hive ever put upon the market; and we are pleased to state that we have made arrangements with Mr. Heddon to the end that we can supply these hives; and the right to use them goes with the hives.

Honey Extractors.

Our Honey Extractors are highly ornamental, better manufactured; and, while the castings are lighter, they are more durable than heretofore, as they are made of superior material.

The Progressive Bee-Keeper.

Last, but not least, comes the Progressive Bee-Keeper, which is much improved, being brimful of good things from the pens of some of the best writers in our land, and we are now making of it more of an illustrated journal than heretofore. Price; only 50 cts. per year.

Send for a copy of our illustrated catalogue, and a sample copy of the Progressive Bee-Keeper. Address

LEAHY Mfg. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Nebraska.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—There seems to be a firm feeling at present pirces. Beeswax in demand. We quote as follows for 24-lb. cases. Fancy White, $2.75; No. 1 White, $2.65; No. 1 Amber, $2 50; White, Extracted, 5½c to 6c; Beeswax, 25c to 28c.

WALKER-BREWSTER GROCER CO.,

Aug.30 423 Walnut St. Kansas City, Mo.

CINCINNATI—The supply of honey at the present time is limited, with but moderate demand. New honey is beginning to arrive.

We quote our market today as follows,—Amber extracted in barrels and cans, 5¼ to 6½c White clover extracted, 6½ to 8c; comb honey (demand limited). 13 to 14c for fancy and No. 1. Beeswax, 29c.

THE FRED W. MUTH CO.

July 29 Cincinnati, Ohio.

BUFFALO.—As cool weather approaches demand improves. Moderate shipments are advised until October and November. Lots of old honey here that is almost unsaleable. We quote as follows:—Fancy white 15c to 16c; No. 1 white, 13c to 14c; Fancy Amber, 12c to 12½c; No. 1 Amber, 10c to 11c; Fancy Dark, 8c to 9c; No. 1 Dark, 7c to 8c; Bees ⸗ax, 28c to 32c.

BATTERSON & CO.

Aug. 31 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—There has been absolutely no call during the past two weeks for either extracted or comb honey. Quite a lot of new goods from the South has been offered, but not enough sales to fix a market price. Everybody is expectantly waiting to see what the outcome will be in the way of production. Some parts of York state have quite a crop, while other parts have little or none. Several large lots of extracted honey have arrived in our market. We quote as follows:—Fancy white, 7 to 8c; amber, 6 to 7c; Southern, 5½ to 6c; beeswax, 26c. We are producers of honey and do not handle on commission.

WM. A. SELSER,

July 29 10 Vine St. Philadelphia, Pa.

CHICAGO—The market has an over supply of comb honey, very little of which will pass as No. 1 grade—price is 11 to 12c per pound, and off-grades at corresponding values Extracted at 6 to 7c per pound for best grades of white; amber colors, 5 to 6c; beeswax, 28 to 30c.

R. A. BURNETT & Co.,

July 27 199 So. Water St., Chicago, Ills.

NEW YORK—Very little new comb honey is arriving as yet and prices are not established. Extracted in fairly good demand, with plenty of supply. Beeswax is dull and declining. We quote as follows:—Fancy white, 14 c to 15c; No. 1 white 13c; fancy amber, 12c; No. 1 Amber, 11c; white extracted, 6½c to 7c; amber extracted, 5½c to 6c; Beeswax, 28c.

HILDRETH & SEGELKEN,

265 & 267 Greenwich St., Cor. Murray St.

Sept. 1 New York.

CINCINNATI, OHIO.—As the weather is yet very warm the demand for noney has not set in, therefore the market is very quiet. I am told there is, in this town, considerable honey from last season. I have no old, and the following quotations are for new: Fancy White 14c to 15½c, No. 1 White 13c to 14½c.

C. H. W. WEBER,

Aug. 31 Cincinnati, Ohio.

CHICAGO—During the past week or so we have had considerable inquiry for New Comb Honey, but the supply is rather limited. If shippers have any new Comb Honey readv, we would advise letting it come forward, or write us what they have to offer and lowest price. Trade on Extracted Honey very quiet, demand limited. We quote as follows: Fancy White 12 c to 13c; No. 1 white, 11c 10 12c; hite, Extracted, 6c to 7c; Amber, extracted, 5½c to 6c; Beeswax, 26c to 30c.

S. T. FISH & CO.,

Sept. 1 189 So. Water St., Chicago, Ills

KANSAS CITY, MO.—With cooler weather the demand for honey is slowly increasing, and the market is firm Beeswax in good demand. We quote as follows for 24-lb cases: Fancy White $3.00: Fancy Amber, $2.25 t o $2.50; hite, Extracted, 7c lb; Beeswax, 30c.

C. C. CLEMONS & CO.

Aug. 30 Kansas City, Mo.

ALBANY, N. Y —The demand for honey is improving some as the season advances. We think present prices are good to take, for from information throughout the country, would seem to be a larger crop than last season, although the crop in this vicinity is short. We have to depend on outside producing sections. We quote as follows: Fancy White. 16c; No. 1 White, 15 c to 16 c; Fancy Amber, 13c to 14c; No. 1 Amber, 12c to 13c; Fancy Dark 12c to 13c; No. 1 Dark, 11c to 12c; White, Extracted, 7c to 7½c; Amber, Extracted, 6c to 6½c; Dark, Extracted, Beeswax, 28c to 30c.

H. N. WRIGHT,

Wholesale Commission,

Sept. 1 Albany, N. Y.

GET READY!

What is the use of putting off to the last minute the preparing of your bees for winter? Begin now! Just figure up what your profits would have been this year if all your colonies had been like your strongest one, or if you did not have such, like a strong colony could have done. This colony was strong because it wintered well. It wintered well because it had an abundance of stores. Let your bee have a chance to make money for you next year.

FEEDERS

Simplicity
Division-Board
Entrance
Miller
Pepper-box

The above are the kinds of feeders we manufacture and sell. They cover every practical form and will meet the needs of every bee-keeper. Our catalog gives complete description and prices, also tells how to use and make feeding syrups.

Like all of Root's Goods these feeders are the best made. You will find them in stock at all of our branch houses. Also our agencies can supply you. Start preparations now.

THE A. I. ROOT COMPANY

FACTORY AND EXECUTIVE OFFICE

MEDINA, OHIO

BRANCHES

Chicago, Ill., 144 E. Erie St.
Philadelphia, Pa., 10 Vine St.
New York, N. Y., 44 Vasey St,
Syracuse, N. Y., 1635 W. Genesee St.
Mechanic Falls, Maine.
St. Paul, Minn., 1024 Miss St.
San Antonio, Texas, 1322 South Flores Street.
Washington, D. C., 1100 Md. Avenue, S. W.
Havana, Cuba, 17 San Ignacio
Kingston, Jamaica, 141 Harbour Street

NOVEMBER, 1904



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 202

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Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Nov. 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(50)	1.35
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1 85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

J. U. HARRIS, Grand Junction, Colo. President.

C. P. DADANT, Hamilton. Ill. Vice President.

GEO. W. BRODBECK, Los Angeles, Calif. Secretary,

N. E. FRANCE, Plattville, Wis. Gen. Manager and Treasurer

Board of Directors.

WM. MCEVOY. Woodburn, Ont.
W. Z. HUTCHINSON, Flint, Mich.
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R. C AIKIN, Loveland, Colo.
P. H. ELWOOD, Starkville, N. Y
E. WHITCOMB, Friend, Neb.
WM. A, SELSER, Philadelphia. Pa.
G. M. DOOLITTLE, Borodino, N. Y.
W. F. MARKS, Chapinville, N. Y.
J. M HAMBAUGH, Escondido, Cal.
C. A. HATCH, Richland Cen., Wis.
C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J. .	130	W. Va....	172
Iowa..	800	N. H. ..	158	Wash.....	128
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

We want the readers of

The Review

to read our Journal. It has just entered its second year, with a list of 3,000 subscribers—think of it—Have you ever heard of a Bee Journal with such a record? Now, for a good year's work. Won't you help?

Send $1.00 for a year's subscription.

THE WESTERN BEE JOURNAL

P. F. ADELSBACH,
Editor,
HANFORD, CALIFORNIA

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.



THE FOUNTAIN PEN

has the "LUCKY CURVE"

The "lucky curve" is a curve in the feed pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself, and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several other kinds. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pens varying in price from $1.50 to $10.00, depending upon the finish of the handle. My pen cost $2.00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,

Flint, Michigan.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prices
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

BEE-KEEPERS ATTENTION!

Are you going to buy bees? Are you going to locate in Texas? We make a specialty of nuclei and full colonies of bees for shipment, in any quantity, anywhere, at all seasons of the year. Car lots a specialty. We are selling agents for a large number of colonies of bees, in quantity and locations to suit purchasers. This is a great bee country and we can supply you the bees at satisfactory prices. If you wish to buy a farm or ranch with the bees very likely we can have it for you; write us your wants.

We are Southwestern managers for The W. T. Falconer Manufacturing Company, and will carry a full line of Bee-Keepers' supplies at FACTORY PRICES. Let us figure with you before you buy your supplies. Order early and secure the cash discounts. We will carry a line of honey cans in season, and buy your honey crop; we also want all the beeswax we can get at the highest market prices. OUR AIM—To supply the bee-keeper his wants and buy his products in return. Correspondence in Spanish and German a specialty.

THE HYDE BEE SUPPLY CO.,
H. H. Hyde, Pres. and Mgr.,
129 N. Flores St,,
SAN ANTONIO, TEXAS.



YZ

YELLOWZONES

TRAIN TOOK ITS OWN PHOTOGRAPH.

A large, handsome engraving, 18 x 28 inches, has been made of "The Burlington's Number One" while going at 60 miles an hour between Chicago and Denver. It is the best picture of a train in motion ever taken, and "the train took the picture itself." This is explained in a folder which will be sent free on application. Price of large engraving, 20 cents. Postage stamps will do. Address P. S. Eustis, General Passenger Agent, C., B. & Q. Ry., 209 Adams Street, Chicago.

Great Clubbing Offers.

Here is a list of magazines, together with the regular prices at which they are published.

CLASS A.

Success	$1.00
Leslie's Monthly Magazine	1.00
Harper's Bazar	1.00
Cosmopolitan	1.00
Good Housekeeping	1.00
Pearson's Magazine	1.00
The Twentieth Century Home	1.00
The American Boy	1.00
The American Inventor	1.50
The Sunset Magazine	1.00
The Technical World	2.00

CLASS B.

The Review of Reviews	$2.50
The World s Work	3.00
Outing	3.00
The Booklovers' Magazine	3.00
The Independent	2.00

If you subscribe for one or more of these magazines in connection with the Bee-Keepers' Review, I can make the following offer:

Success, and the Review, for only	$1 75
Success, any one magazine in class A, and the Review, for only	2 50
Success, any two magazines in class A, and the Review for only	3 00
Success, any three magazines in class A, and the Review, for only	3 50
Success, Review of Reviews and the Review, for only	3 50
Success, The Independent, and the Review, for only	3 50
Success, any two of class B, and the Review, for only	5 00
Success, any three of class B, and the Review for only	6 50
Success, any one of class A and any one of class B, and the Review for only	4 00
Success, any one of class A and two of class B, and the Review, for only	5 50
Success, any two class A, and one class B, and the Review, for only	4 50
Success, any two of class, A. and any two of class B, and the Review, for only	6 00
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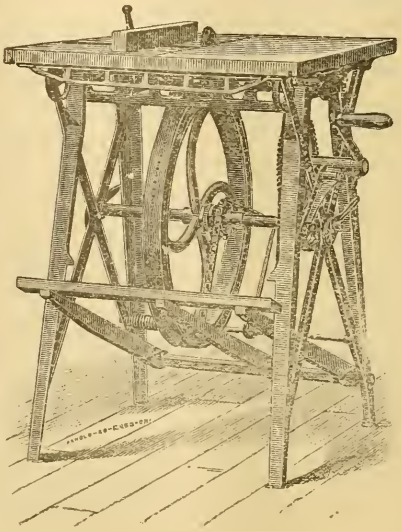
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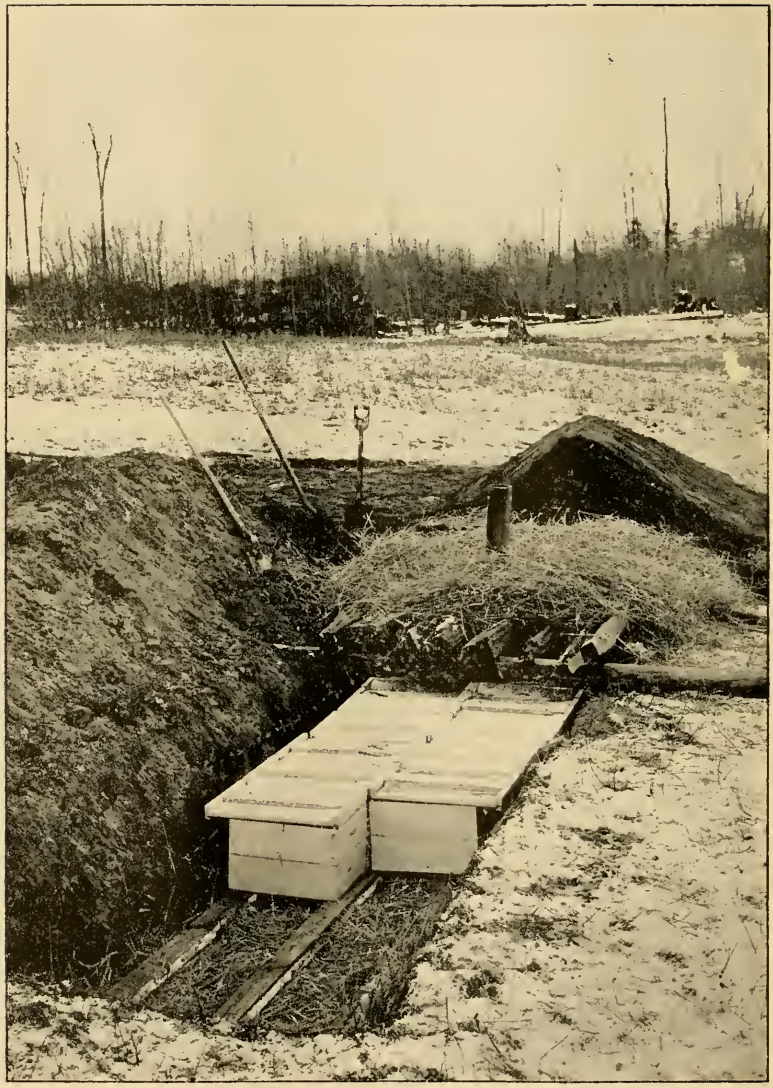
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Burying Bees in a "Clamp."

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

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W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVII. FLINT, MICHIGAN, NOV. 15, 1904. NO. 11.

Points to be Heeded in Wintering Bees in Michigan.

BY E. D. TOWNSEND.

THERE are so many things to take into consideration in wintering our bees here in northern Michigan, that I scarcely know where to begin, when writing on this subject, but there are two essentials, that seem to stand out in my mind's eye, quite a little more prominent than anything else, no matter whether we winter the bees in chaff, in the cellar, or in a clamp, and these are outside protection and winter stores. I hardly know which is the more important. Perhaps I would not be far out of the way if I should say winter stores, if we winter indoors; and outside protection, if wintered in chaff. But they should, by all means, both get together if we expect fair success in wintering.

ADVANTAGE OF A SHELTERED LOCATION.

We are starting a new yard three miles north of town, and have selected a place for it, where there is quite a bluff on the north, east and west sides, leaving an acre or so, where we are setting the bees, that is nearly level, and open to the south. These hills will furnish ideal outside protection for this yard. In selecting a protected place, as above, it is essential that the inclosure be not too large, just room enough for the bees, and honey house. With this nook of an acre, the wind will blow over it and not cause a draft through it, as a larger opening would. Then these hills are loose sand, and I have another use for them, but more anon. We consider this outside protection essential, no matter whether we winter indoors or out. With chaff packed bees in this inclosure they will have many chances to fly during sunny days in winter, when it would be suicidal for them to venture out where they have no protection from the wind; and these little chances to fly during the winter, giving uneasy colonies a chance to have a cleansing flight, coupled with good stores, appear to be the key to successful wintering in chaff. Then the bees we winter inside need this same protection, especially during the cold bad weather of

spring, when the combs are full of brood, and, perhaps, only a scant number of bees to take care of it.

Colonies in single-walled hives need all the protection it is possible to give them.

WINTER STORES MUST BE OF THE BEST.

We are having forced upon us, more and more, every year, the importance of quality of winter stores. Those who have kept track of my previous wintering know I have had quite a large experience with bees in different localities, thus having a chance to test the different kinds of honeys for winter stores, such as clover, basswood, raspberry, buckwheat and asters. During several years I have had, each year, yards of bees wintering on these different kinds of honey; that is, one yard would have white honey, another aster or buckwheat. So you see, I could compare the results each spring, and, as the winters were the same in each yard, the results could be figured out easily, with a little allowance for outside protection, as the case might be. Now for the results: "Did the bees all live with the best stores?" "No." "Did they die with the poor stores?" "No." But the percentage was very much in favor of the white, early honey for winter stores, every time. With a mild winter the difference is not so great, but a cold winter, like last winter, or like one we get every two or three years, it is almost sure death to a colony if they have nothing but this poor fall honey to winter on.

WINTER STORES MUST BE OF THE BEST.

I do not think I can do better than give some figures, showing the results from two yards, otherwise the same, only one was fed ten pounds of sugar syrup per colony, in addition to what natural stores they already had. These yards were the Eldred, and the Pine Lake. Both yards had the same grade of honey, part buckkwheat and aster and a part white early honey. As there was no honey extracted from the brood-nests there was no difference in the quality of these stores that I know of. We fed the Eldred yard 150 pounds sugar syrup, all to light stocks, as they needed this amount to carry them through the winter. The Pine Lake colonies were all fed 10 pounds each in addition to what natural stores they already had. This feeding was done the last of September, about the time the brood was getting pretty well hatched out, and, as it is natural for bees to carry the outside honey into the center of the brood-nest at that time of year, it would be natural that they would store this sugar syrup there also, just where wanted for their winter consumption. These two yards contained 98 colonies each, a year ago, all in chaff hives, with about the same outside protection. You will remember that last winter was very severe on bees, especially those wintered out side. The result was that the sugar fed bees came out with 80 good fair colonies alive, while the other had only 65; and a part of these so weak that they did not amount to anything for our early harvest. I will carry the crop report of these two yards out in dollars and cents, then we can better understand what I consider that I realized on an investment of less than $50 in sugar. As the honey is all sold I find that the Pine Lake yard (sugar fed) credited with $658, while the Eldred has a credit of only $320. In addition, the winter losses were all made up at the sugar-fed yard, while there were only 25 made at the Eldred. Had I have made up the balance of the winter loss, these figures would have been lowered to quite an extent.

WINTERING BEES IN CLAMPS.

You will remember I told you above that we were locating a yard of bees, inclosed on three sides with light sand

hills. If you turn to the frontispiece of this number of the Review you will understand the object better, perhaps than I can explain it. This is the mode of wintering we have adopted at three of our yards, where over 300 colonies will be wintered this way. Dampness seems to be the one great thing to avoid with this mode of wintering. The first essential is a loose, sandy soil. We like a good slope to the ground, then dig our trench up and down the hill, with surface drains on each side, to carry off any surplus water that may accumulate. It is also necessary to have as much slope to the cover of dirt as we can have. We keep throwing on sand as long as it will stay in place; or, in other words, the last shovelfulls will not stay on, but roll down. With this steep cover I do not think there will any water get through the covering. If you turn to the frontispiece again you will see, after the trench is dug, 6 or 8 inches of straw is tramped down in the bottom, then 2 x 4 scantling are placed on the straw, the right distance apart to set the hives on. The hives are now put in without bottoms. We also raise up one end of the cover, and slide towards one end until the cleat rests on the end of the hive, so as to give upward as well as lower ventilation. Then we put on the cross-pieces and rails or poles, then a good coat of straw. A four-inch ventilation is placed in the center of the pit. Then we are ready for the dirt. You will notice that the cut shows a pit running parallel with the hill. This is wrong, as the surface water working down the hill keeps the bees damp, and causes mould to accumulate in the pit, and in some of the hives. As to the best number to bury in a pit I have known of good results all the way from 1 to 96; but, some of my neighbors have not had quite as good results with so large a number as this, and as they nearly all report good results with about 30, I shall put in about that number. About that straw on the bottom of the pit. I have asked a good many what object there was for this bottom straw, and all have said they did not know, so we have been burying some without straw in the bottom, and securing good results, and we shall not use any there this fall. When digging them out in the spring I have always noticed that this straw was wet and mouldy, and when there was no straw, the ground would be dry, and the lower part of the hive would be in better shape. Neither shall we use any ventilation hereafter, as the bees seem to winter just as well, or better, without it. We pit the bees in the last half of November, and set them out the first half April—about the same as cellar-wintered bees are handled.

REMUS, Mich., Oct. 7, 1904.

Establishing and Maintaining a Honey Route.

BY C. F. SMITH.

FOR the ordinary mortal to undertake to make monthly visits to hundreds of customers, mixed up with from 3,000 to 5,000 people, without some system, would mean unbearable confusion. The key to success in any business is system.

In large cities the territory should be divided up so that each salesman would have at least 3,000 people.

Unite on lines and prices, and go ahead. Divide your territory into equal routes, by wards or streets. Thus you will cover the ground by running two days in each week. Make a chart of your routes, in the back of your book, showing the days of the month when you will visit each ward. The chart would be something like this:

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
1st ward	5	2-30	28	25	23	20	Friday
B.C.& D.sts	9	6	4	1-29	27	24	Tues
4th ward	12	9	7	4	2-20	27	Friday
5th ward	16	13	11	8	6	31	Tues.

Tuesdays and Fridays are the two best days. Monday is wash-day, and, Saturday, they take to the wash-tub themselves, and dress for the street.

You cannot lay out a route for each day on the start, for it will take up two days to work up the territory of each of your one-day routes. Then, if, from lack of time, sickness or storms, you fail to get over a route as per charted day, you can finish on the next day. Be as punctual as possible. Get into the habit of seeing every customer every four weeks to a day.

KEEPING TRACK OF CUSTOMERS AND THEIR ACCOUNTS.

I have tried many ways of keeping track of my honey customers and their little debts, but consider the method I have been using the past year the only one worth mentioning. My day book is 3½x8½ inches, should be as wide as will go in the upper, outside, coat pocket, and not cost over 10 cents. When you get well established in business, you will need one book for each route; until then you can make one book answer by dividing it into eight equal parts. These books are ruled, but I put the date at the top of the page, together with the name of the route I am working in, thus: "1st ward, August 5." The first entry is the amount of change (cash) on hand, which is put in the money column at the right, and a line drawn under it. All cash sales are entered, underneath with the name or house number of customer on the middle line. All *unpaid* items are placed at the left in what was intended for the date column. Many pay up for one or two pails, and go in debt for another, in which case their line will have a cash entry at each end. Few ask for credit, but I usually urge them to buy on a month's credit, for the sake of making a sale or two to introduce some fine honey, but I give all to understand that I do not wish to run accounts, and that my system of book-keeping will not admit of it.

The business of this one-day route will cover two or three pages of the book. The next time over the route I begin in the book just where I left off, going over the route in the same rotation, using the record of the previous month for a guide. If from any cause, a person does not pay the last month's bill, I *transfer* the name and the amount forward into today's business at the time I pass the house; thus all dues are in a nutshell, and I never have to turn back to look them up. When they are paid I draw a mark across the amount, and bring it down into the money column of the day in which it is paid. The sum of the amounts of the right hand column, except the cash on hand item at the top, will be the cash received during the day, and will be the cash debtor entry on the cash account at home. This amount with the cash on hand item at the top, minus the amount I have paid out during the day (which should be kept track of in the memorandum book, and credit to the cash account at night), will correspond with the amount of cash in my pocket, provided I have made no mistakes during the day nor lost any money. In many ways the satisfaction afforded by this method is very great.

If you sell honey only, you need no other book on the road; but if you

handle butter, eggs, berries, etc., to weekly customers whose husbands are lawyers, doctors or other professional men, most of whom make it a point never to leave a cent of money in the house, you will keep regular accounts with them, and climb the stairs to their offices every 30 days. The best book to keep these accounts in is the little red index book, (lettered along the margin). I use the smallest sized pencils, carrying one in each book.

For a ledger book at home, I keep my accounts in a book 7 x 11 which cost me 4 cents at our "racket store." In this book I keep the "cash account," "grocery and living expenses," "doctor bills and dentistry," "poultry account," "dairy," "bees and honey," and "fruit accounts."

MELTING HONEY WITHOUT SCORCHING IT.

We buy and store honey in the 60-pound cans, and melt it up the day before the sale, two cans at a time, in the boiler. We have a wooden, slat-sling, with wire bails, for *each can*. There is a screw-eye in the joist over the stove to attach a set of small blocks or even a lever, for lifting the cans. The honey is put on the stove early in the morning, and when the water gets as hot as you can bear your hand in, we *raise the boiler an inch or two* and are careful that it *gets no hotter*. We pour the honey through a flour sack strainer into a tin can; and run it into the bottles and pails through an inch, oil faucet, while hot. The glassed, and most of the comb honey, goes to the groceries and meat markets; but for my customers I want 120 pounds of extracted to 10 pounds of comb honey, in cartons; for if I sell ripe extracted honey at a shilling, and comb at 18 cents to 20 cents, the chances are that the extracted honey will be gone first. Sell your poorest honey to bakers, second class boarding houses and big amilies, at any old price, in the 60 pound cans. The past year I packed my pails in the wooden honey jackets, and if I brought any of it, or any of the glassed honey, home, I put it in a three-cornered cupboard in the hottest corner of the kitchen.

WHAT MUST BE DONE TO SECURE CUSTOMERS.

Not every person likes honey, but there are enough in every 5,000 to consume from 15,000 to 20,000 pounds of *ripe* extracted honey each year, but you have got to *take it to their doors*, show them what you have, and, if necessary to remove a lot of false impressions, let them sample it. It's the only way to sell large amounts. You can't depend on mail and telephone orders for selling extracted honey, from advertising. Nearly all people are prejudiced against extracted honey, from having eaten an unripe or improperly handled article. I want to impress it upon producers that, although they *have* sold lots of unripe honey, they can't *always* do it. I myself have bought honey by the ton of men who *can't sell me any more*. The best honey I ever bought had to remain in the combs until I got the cans empty from a former lot and sent back. Such honey is worth five cents a pound more for my table, or my trade, than is half-capped stuff.

WORKING UP A ROUTE.

When you get ready to work up a new territory, begin at the end of the street and canvass every house. Find out who use honey and who do not. You will make quicker work and more sales by carrying a pail or two in your hands and a good sample in glass in your pocket. Some cold day in September is the best time to commence, and if yon have a good article you ought to sell a pail of some size at every third house, and get orders to call at another third the next trip. Usually I pay no further attention to the other third, though in many cases, where

there are children, some missionary work ought to be done.

York's leaflets are good for nearly all cases, but there ought to be a leaflet issued on purpose for those hard-hearted old heathen who refuse to get honey for their teasing children.

That they may learn what your business is, all are pleased to see you the first time over a route, and it is very pleasant. The second, and all subsequent times, you go only where you have business, and this ought to give a peace of mind that never comes to the ordinary mortal, who peddles potatoes and apples by the peck, and who has to judge of his chances for success by the looks of a house on the outside.

Besides putting down the amounts paid, or unpaid, against the name or house number, on your book, put down all numbers for "calls" on your next trip, and in their natural order. Commit names and numbers to memory as soon as possible.

Be neat, courteous and expeditious, and go through your work with vim and earnestness. There is something about the action of a hustler that stimulates other people to action. No two are alike. Go at each one differently. Don't ask them if they "want to buy some honey." Of course they don't until *you make them* want what you have, and then they will buy without asking. Don't beg for buyers. Be independent.

I repeat, that it takes two days to work up a one-day route. In a short time you can add another. Three one-day routes should consume 500 pounds weekly, or 15,000 pounds in thirty weeks.

CHEBOYGAN, MICH., Aug. 22, 1904.

Encourage Cash Buyers Instead of Commission Men.

BY A. W. SMITH.

MR. Editor, I have just read Mr. Townsend's article, (Page 326). on how to get better prices for honey. Usually I consider anything from his pen of great value to bee-keepers, but in this case it seems to me he is away off. In one breath he says, "sell your own honey" (which I think is sensible advice), in the next he says, "the commission man is here to stay, and fills a niche we can ill afford to dispense with." He says the most practical method for the bee-keeper, no matter where he lives, is to sell his honey to the commission man's customers. Let me tell you the bee-keeper can't do this. If he attempts it he will find the commission man will beat him every time. And why shouldn't he ? He has nothing invested, but has a few tons of Mr. Townsend's honey on commission. It was sent to him to sell, and it will be a safe bet that he will get rid of it. I would just like to see Mr. Townsend get any of the commision man's customers. I will guarantee that he would find it hard sledding. This more particularly refers to comb honey, as commission men handle comparatively little extracted honey, because buyers, as a rule, have not confidence enough to buy it of them. Mr. Townsend speaks of another middle man, the spot-cash buyer, but he kills him off at a single stroke of the pen—

yet can "ill afford to dispense with the commission man." Mr. Townsend admits the commission man consumes 50 per cent, in freight, cartage, graftage, breakage and commission, yet is not willing the spot-cash buyer buyer shall have even ½ cent per pound profit for his trouble and hard work in drumming up trade in competition with commissioned goods. He usually must put forth 20 times the effort the commission man does. He must, in a way, educate the people as regards the purity of his honey, etc. I have known a commission man to tell a customer that such a lot of comb honey (naming an extra fancy lot) was no doubt manufactured, for, said he, the bees do not make it as nice, smooth and clean, yet it sells because it "looks nice." These are the men that are here to stay, and "fill a niche." If they knew anything about the impossibility of man making comb honey, they would not waste their time educating people about the purity of honey; they don't need to, they have the goods to sell, and if they do not bring one price, they must go at another, and woe to the bee-keeper, or cash buyer, who comes in competition with them. But the strangest thing to me is, that bee-keepers encourage this method of doing business, and seem to do their utmost to choke off the cash buyers. Do you wish to know the remedy? First, let every bee-keeper sell his own honey, which he can do for spot cash. The commission men will buy if they can't get it on commission; but are not the fools to buy when they can get it without. Second, do all you can to encourage the cash buyer. Do not begrudge him the ½ cent per pound he must make to live. Don't charge him 12½ cents per pound for extracted honey, and 16 cents per pound for comb, at your depot (as has been done in some instances this year), but sell to him as cheap as you can afford to. In other words, do all you can consistently to encourage him, and do all you can to discourage the commission man, or turn him into a cash buyer. If you encourage the commission men by making them shipments, you *surely* are killing off the cash buyers. I note that some commission men have begun *buying* this year—it's a good sign. Boys, starve them out, or turn them into cash buyers. No one need be afraid of *legitimate* competition, but no cash buyer can compete with commissioned goods. Do not think I wish to intimate that commission men are not *honest*. I believe there are honest ones. I also believe there are five-leaved clovers, but I have lived 64 years, and have yet to see my first five-leaved clover. There is a good book that says "we will buy and sell and make gain," but I have not seen where it says we will get honey on commission and ride in our automobile. It seems to me that with the supply trust at one end, and the commission men at the other, the poor bee-keeper, after passing between these two rolls, has not much left but the expense. Now, brother bee-keepers, you have given the commission method a fair trial, why not *try* the "spot-cash" plan? Then you either have your honey or your money? But if your year's work is in someone else's hands, what have you? I firmly believe if all commission men were forced to become cash buyers bee-keeping would be on a more solid foundation, and "spot-cash" buyers, would soon be plentiful, and the more the better for all concerned. But do not think cash buyers will rush to the country to pay good money for your honey that they may bring it to cities to sell in competition with those who have not risked a penny, but are *sure* of good pay in any event. Their number is legion. One poor countryman wondered how they all lived. Why, said one, "we live off the country half the year—and off each other the other half." Don't think cash

buyers are fools, and, do not for a moment think the commission men are, if you do, 'tis only necessary to commence with, say, the August number (any year) of any of the Bee Journals, and read carefully until, say, April 1st, the market reports and free advertising given the commission men. Note how adroitly all are worded, see how gently and carefully the bee-keeper is dropped—and—proceeds pocketed—and—what are you going to do about it ?

BIRMINGHAM, MICH. Oct. 22, 1904.

[I did not get the idea from Mr. Townsend's article that the honey producer was to enter into an actual, bidding contest with the commission man, but, rather, that he was to seek out and cater to the class of trade that usually buys its honey of a commission man, or a jobber. Even if the producer sells his honey at the same price as the commission man sells his honey, there is a saving of freight, cartage and commission. It is probably true, as Mr. Townsend said, that the commission man will continue to fill his niche, and, for the reason given by Mr. Townsend, viz., that there is a class of bee-keepers who don't care to put forth any effort to sell their own crop. It is true that the commission man has not the incentive that the cash buyer has to hold up the price; at the same time it is true that men have realized more for their honey when sold on commission than when sold out and out. The man who planks down the hard cash for honey must save to himself a wide margin, much wider than is needed by the man who puts no money into the deal. I agree with Mr. Smith that to sell honey for cash down is, as a rule, more satisfactory, and that we should do all we can to encourage cash buyers.—ED. REVIEW.]

Some Basic Principles in the Wintering of Bees.

BY A. C. MILLER.

IN the October Review the editor and Mr. Lathrop made some comments on wintering which have led me to put in my oar.

POSITION OF STORES IMPORTANT.

There are some points in Mr. Lathrop's article which deserve special emphasis. Quantity of stores is pretty well understood; quality is more indefinite in the minds of many; but the need of having the stores in the *right place* is almost unknown. Notwithstanding all that has been written about it, no impression appears to have been made.

If the combs are not changed about after the bees have put the stores in them, and if the hive is not turned about on the bottom board so as to change the relative position of the entrance, the stores are sure to be in the proper place for the best results. The bees know far more of this than we do. Fall feeding of a little honey or syrup often enables the bees to perfect such placing when they have been stopped by frost or other natural interference.

In the same issue Mr. Townsend attributes the favorable results of such fall feeding to sugar syrup, whereas, honey given under the same conditions

would have done equally as well, and if the bees of his Eldred yard had been able to secure sufficient stores from the fields he would have found that yard equal to or superior to the other.

IMPORTANCE OF VIGOROUS QUEENS.

An old queen does not affect the wintering of a colony, but does seriously affect early breeding. The increase of bees in a colony from January 1 to April 1 is far greater than is ordinarily supposed, and that such increase may be at the maximum, it is best to have a vigorous queen at the head of the colony when it goes into winter quarters. I use the term vigorous instead of young, because many a queen at the end of her second season (and sometimes the third) is quite as good as a very young queen.

Young bees in abundance are very important. Many a colony, populous in the fall, comes out in the spring small, merely because few if any young bees were reared in the late summer or early fall. The old bees die off during the winter and there are not enough young ones to carry on proper brood rearing during that time.

In the average northern locality, all stocks with good queens will rear young at a time suitable to furnish bees of the right age for good wintering. Often, however, through man's intervention, such breeding is prevented or interferred with, and when fall arrives, man steps in and combines his colonies until they "are strong enough for winter," quite forgetting the age-factor, which factor, by the way, cannot be accurately determined unless it is positively known when brood emerged. Even if man knows the age of the bees in the stocks he is to unite, it is quite beyond his abilities to make such union in the same proportion of ages as those existing in a normal colony.

The remedy for troubles from such causes lies in the early replacing of failing queens, and in the early union of depleted stocks. And, by the way, that English term "stock," signifying an established colony, is far more convenient than the latter three syllabled word.

Mr. Lathrop would have done well to have put special stress on the "all summer" preparation.

DYSENTERY A PREVENTABLE GERM DISEASE.

Dysentery is a preventable, germ-disease. The germs seem to be generally present in the intestines of the bees, but cause trouble only under special conditions. The disease may appear in midsummer, or at any other time under conditions readily controlled by the student.

Fermented stores do not of themselves canse dysentery, but, coupled with efforts to maintain proper temperature, they produce the disease very quickly.

Inability to maintain proper brood-nest temperature, or, perhaps, I should say to maintain normal body temperature, will soon cause its appearance, be the food ever so good.

With a dry hive, abundance of youthful bees, and a plentiful supply of oxygen under the bees' control, they will resist the malign influence of poor food to a remarkable degree.

Right here I wish to refer to the editor's mention of paper protection for out door wintering.

THE PROPER METHOD OF PROTECTING BEES WITH TARRED PAPER.

I believe I was the inventor or discoverer, of the system, and I have several times stated what seem to be the principles which cause it to be so beneficial, but, as some persons have seemed, when trying it, to have overlooked one or more factors (important in any form of out-door wintering), and have attributed their failure to the black paper, I wish to emphasize those details. Tarred paper laid over a hive and folded down about it, just as one

would wrap a bundle, and with the lower edges fastened down with strips of wood tacked on, gives a water and wind-proof protection. With this should be coupled, besides the "colony conditions," before mentioned, an abundance of ventilation at the entrance. I give an entrance ½ x 14 inches.

The tarred paper accomplishes this, keeps out water, keeps out wind, absorbs the sun's rays, which runs up temperature within the hive, thus driving out any condensed moisture, and enabling the bees to feed, clean house, and move about. When the sun is gone it lets that heat escape so slowly that the bees have abundant time to settle down as they should.

Bees do not fly unduly from hives thus protected, and so ventilated, and such bees as do fly and fail to return, are those which otherwise would die within the hive.

When I first published this system I especially cautioned all persons north of here to go slowly in their experiments with it, as I was then uncertain as to how it would work in more severe climates. From experiments, by myself and others, since that time, I am satisfied that the system will be as effective many degrees north of here, as it is here and further south.

Tarred paper is no more effective than chaff in keeping the bees warm, but it does serve to give them heat whenever the sun shines, which is what chaff hives absolutely prevent. If colonies filled the chamber within a chaff hive, then its packed walls would conserve the heat of the bees, but the bees occupy only a small part of such chamber, and the space all about them—air, combs, honey, and all—is practically no warmer than the air without the hive. I believe that bees winter well in chaff hives, in *spite* of the chaff, not on account of it. They will winter perfectly in hives but one-quarter inch thick, exposed to a temperature 26 below zero, and holding below zero for a week at a time, if conditions of bees, food, ventilation, etc., are right; and they die just as dead in chaff hives as they do in any other.

THE DISADVANTAGE OF CHAFF HIVES.

Chaff hives heat through very slowly, and in the short winter days they do not heat through. Unprotected hives heat through readily, and cool quickly. Tarred paper, on single-walled hives, corrects the faults of both hives.

When the bees break their cluster and spread their brood-nest in the spring, at which time they warm the whole brood chamber, then chaff packing is a real help and an advantage over an unprotected hive. But tarred paper accomplishes the same with the additional help of gathering heat from without whenever the sun shines.

The wintering problem is one of many details, not of any one alone. It is too late now to do much to help out poor stocks, but the black covering will help all very much. But don't forget the abundant ventilation at the entrance,

If some will devise or discover some equally wind- and water-proof protection that is cleaner to handle and more durable in use than is tarred paper, he will do us a world of good. But it must possess similar felt-like properties and be black.

PROVIDENCE R.I., Oct., 21, 1904.

[This question of the *position* of stores, while not entirely new, has received very little attention. When bees are wintered out of doors, it certainly must be of much importance—in a warm cellar it does not seem as though it would be of nearly so much importance. Whether the feeding of ten pounds of honey, instead of sugar, in Mr. Townsend's case, would have produced the same results, is doubtful in the mind of THE EDITOR.]

Editorial

THREE CENTS Is the price of the Columbia jar—not two cents as given by Mr. Smith in his article of last month—that was error.

MR. GEO. W. BRODBECK has publicly withdrawn his candidacy for the Secretaryship. This leaves the office without a nominee, and everybody free to vote for just whomsoever they please.

MINNESOTA bee-keepers will hold their 19th annual convention December 7th and 8th, in the First Unitarian church, corner of 8th street and Mary Place, Minneapolis. A good program is being prepared, and G. W. York and E. R. Root are expected to be present. Mr. Root will give a stereopticon lecture on the evening of the first day.

HOUSE-APIARIES are regarded as obsolete, but the December Review will contain several illustrations and descriptions of house apiaries now in use, some of the factors in their management being decidedly novel. For instance, one man is able to tell when any stock is making preparations for swarming, without so much as taking a comb from a hive.

MISTAKES, or the fear of making them, ought not to retard one's progress, but often 'tis the cause. I believe it is said of Geo. B. McClellan, at one time commander-in-chief of the Union army, during the war of the rebellion, that he was so afraid of making mistakes, so careful, that he practically did nothing at all with the army. Don't be afraid of making mistakes. We all make them, all of us that do anything, in fact, it has been said that the man who never made a mistake never made anything else. Plan to the best of your ability. but don't let the fear of making mistakes prevent you from making progress.

THE HARMONIOUSNESS that prevailed at the St. Louis convention is regarded by the American Bee-Keeper as "not a very broad claim for a National Association." Perhaps not, but when a man has attended two conventions in which the principal topic was a sort of "scrap," it certainly was gratifying to hold a convention upon the burying ground of the hatchet.

THE REPORT of the General Manager of the National Association, together with a report of the St. Louis convention, has been printed, and I presume it will reach the members before this copy of the Review is in the hands of its readers. It is a book of nearly 200 pages, giving a list of the "cases" looked after and defended or settled by the General Manager, his financial statement for the year, the constitution of the Association, a verbatim report of the proceedings of the convention, and about 20 pages of advertisements of the leading dealers in supplies, etc. It is a book that would, ordinarily, sell for at least half a dollar, yet it will cost the members only 20 cents a copy, including postage. I don't mean that members will have to pay that in order to get a copy, but that is what it costs to print and mail them. Any member will be able to sit by his fireside, and read all that was said and done at the St. Louis convention. He can also see

who are members, where they live, how many bees they keep and how much honey they produced this year. If you are not a member, better send $1.00 to N. E. France, Platteville, Wis., and become a member. Then you will receive a copy of the report, and a neat button, the emblem of the order, to wear on your coat.

THE NATIONAL ASSOCIATION SHOULD DEVOTE MORE OF ITS MONEY AND ENERGIES TO ADVERTISING HONEY, PROSECUTING ADULTERATORS AND KILLING DAMAGING STORIES.

The Bee-Keepers' Union was organized, years ago, with the sole object of protecting its members who got into trouble with their neighbors regarding their bees. The Union was finally merged into the National, but the "defense" idea has still been kept uppermost. But times change, and it is rapidly becoming apparent that there are other things of more importance than that of spending money on what are often little more than neighborhood squabbles in which the bees are made an excuse for a lawsuit. Too many are not careful with their bees to avoid trouble; not so careful as they would be were they not members of the Association; as they expect to be helped if they get into trouble. The helping of a man out of trouble does not, as a rule, greatly benefit the membership. I would not say that no member should be helped when suit is brought against him in regard to his bees, as there will probably arise cases in which it will be highly important that help be given, but it is very important that, in some way, the reins be drawn tighter upon the using of money for this class of work. Not only does it use money, but these little wrangles take the time and energies of the Manager, and they can be used to better advantage in other ways. For instance, the advertising and popularizing of honey would be of value to the entire membership. The same might be said of the prosecution of adulterators of honey, and of some of the editors who so persistently repeat the silly stories about artificial comb honey. The gathering of statistics, the advertising of honey, the punishing of adulterators, and also of the defamers of our product, the securing of needed legislation, the scattering of educational leaflets and other educational literature, these, and similar things, are more desirable for accomplishment than the defending of some man who has got into a quarrel with his neighbor, in many cases a quarrel that he might have avoided.

THE NATIONAL ASSOCIATION.

Quite a number of the editorials in this issue refer to the National Association matters. The same might be said of some of the other issues of the Review for this year. I think, however, that too much cannot be said or done to up-build the Association—to remove objectionable features, and encourage the ones that are desirable. The Association is rapidly becoming an apicultural power. It isn't a dozen years ago when it was simply the holding of a convention in one part of the country, then in another part the next year. The attendance was about three-fourths local, and these local members dropped out the next year. See how it has broadened, and branched out, and taken up new features, and now holds its members year after year, besides adding new ones, until it now numbers 2,000. Lack of experience upon the part of the officers and members has caused some friction, but, gradually, the rough places are becoming smooth, and the Association is rapidly becoming a real help to bee-keepers. I have faith that it will yet help them directly in the marketing of their honey and the buying of their

supplies. All these things come slowly, and we must have patience.

KEEPING BEES IN LARGE NUMBERS—ARTICLES WANTED ON THE SUBJECT.

Notwithstanding the little apparent interest taken in this subject by some of the journals, I know from correspondence and from conversation with bee-keepers, that many of them are seriously contemplating the keeping of more bees, of establishing out-apiaries, and making a specialty of bee-keeping.

The establishment and management of out-apiaries bring in new factors, and usually call for a complete change of plans. Taking care of a few colonies of bees, and managing hundreds of colonies scattered about in several apiaries, are so far different that they might almost be called different occupations. The man beginning to build up out-apiaries has almost as much to learn as has the man beginning to build up his first apiary.

With a view to helping these bee-keepers who are about to branch out and enlarge their businesses, I would be pleased to receive articles from men who have had experience in managing large numbers of colonies. Here are some of the points I would like taken up.

Number of colonies in the home-apiary that will justify the starting of an out-apiary; how far apart shall apiaries be located; how shall locations be selected; what arrangements with the owner of the land are most desirable; what method of travel is best in visiting out-apiaries; how shall hives be secured for increase, bought of the manufacturer, or made by the bee-keeper; how shall the increase be made or secured (this is important); what kind of honey shall be produced, comb or extracted, and why; how shall the swarming problem be solved; shall there be a good building and a set of tools at each yard, or shall there be a tent and tools carried from yard to yard; how shall help be secured to do the work, shall wages be paid, or a share of the product given; shall the bees be wintered out of doors, or in cellars, (one at each yard) or shall they be brought home and wintered in one large cellar, and then carted back in the spring? What are the greatest obstacles to be overcome in managing bees in large numbers? What are the things that you know now, that you didn't know when you began establishing out-apiaries, that would have been of the greatest help to you if you had known them?

There are, of course, many other points besides the ones mentioned; these are given more as hints or suggestions, and not to be followed literally. I would like to have each writer go on and tell those things that, according to his experience, will be of the most benefit if known by the man who is beginning to branch out and keep more bees.

For such articles as I use, I will pay liberally, in cash.

QUEENS AND THEIR INFLUENCE UPON SUCCESS IN BEE CULTURE.

(Read at the Ontario Bee Convention.)

I expect it will be called heresy, but, many times, when reading extravant expressions about "the whole of bee-keeping centering upon the queen," I have felt like exclaiming: "Other things being equal, one queen is as good as another." This may be putting it stronger than it will bear; besides, it does not *exactly* express my meaning. Perhaps I cannot make myself exactly understood, but I will try. It is not so much what a queen is *herself*, as what her ancestors were; or, rather, what her *bees* are. That is, she may be an insignificant looking specimen, may have been reared in a manner wholly at variance with the

established principles of queen rearing, may be one of those short lived affairs whose days are soon numbered, yet, if she comes from the *right stock*, her bees, whatever may be the number of which she becomes the mother, are *just as good bees as can be produced.* In other words, there is no system of queen rearing that will improve a strain of bees. Try and not misunderstand me. To be sure, we must have queens that are sufficiently prolific to keep the brood nests full of brood at a time of the year when this is desirable; and possessed of a longevity that will enable them to perform this feat two or more seasons; having this, what more is needed ? As a rule, the honey producer need trouble his head very little about the rearing of queens. The bees will attend to that, and rear just as good queens as are needed. If his queens don't fill the brood-nests in the required season, how much more practical to simply reduce the size of his brood-nests until the queens *do* fill them, instead of ransacking the earth for more prolific queens, or else by twisting, turning, and shifting about of combs, endeavor to make one queen lay an increased number of eggs.

As I look at the matter, in the light in which I am discussing it, the queen is simply the vehicle of transmission from one generation to another. It is the *qualities* to be transmitted, rather than the *vehicle* of transmission, that should receive our attention. To illustrate: A man has a strain of bees that are of little value as honey gatherers. Can he, by any sort of "jugglery" at queen rearing, transform them into energectic workers ? Something might be done in the way of selection, but not by methods of queen rearing.

Bee-keepers often tell how much better are the bees from the queen secured from this breeder than from the queen bought of some other breeder; or that the bees from the daughter of a queen from a certain breeder are superior to bees from the daughters of some other queen, and have argued from this that the queens, and the manner in which they were reared, caused the difference in results. I say *no.* The difference is in the *strain of bees*, and not in the manner in which the queens were reared.

That there *are* circumstances in which much depends upon the queen it is idle to dispute. Some of our best bee-keepers have argued against extra prolificness in queens, some of them even going so far as to assert that prolificness in the queen is at the expense of quality in the bees; but that prolificness is all important to the user of large brood-nests cannot be dodged. *He* must have prolific queens, else one half of his brood chamber is transformed into a store-room. But this extra prolificness is not secured by some peculiar method of queen rearing, but by *selection*—by rearing queens from the colonies having the most prolific queens. Here, again, the queen is simply the vehicle for transmitting the quality of prolificness from one generation to the other.

The *age* of queens may also have some bearing upon success. Where the harvest ends with white clover, more surplus will be secured if the bees do hot swarm; and colonies with young queens are far less likely to swarm. Then, again, young queens lay much later in the fall, and this has a bearing upon the subject of wintering, as also does the time when they begin laying in the spring.

As I have already said, we need queens sufficiently prolific to fill the brood-nests with eggs at the season of the year when this is desirable, and possessed of a reasonable amount of longevity. This secured, nothing more needs consideration except the *stock* from which they come. Naturally, when a man buys a queen, he expects to get the worth of his money. If he buys her to rear queens from, he ex-

pects her to be able to endow her royal offspring with the qualities and characteristics of her ancestors; and, if she does this, he need not mourn if she lives only long enough to allow him to secure a goodly number of her daughters. If he buys queens in large quantities to re-queen an apiary, he has a right to feel that he has been cheated if the queens live only a few short months. The practical honey producer has not this problem to solve. Simply let the bees rear their own queens, and they will be as good as any. That queens can be reared artificially, equal to any, there is no doubt. Most *certainly* they can. How it can be done has been repeatedly published.

As I have said in the beginning, we have a lot of sayings something like the following: "Good queens are the foundation of good bee-keeping." "Bee-keeping all centers about the queen." "As the queen lays all the eggs, of course, success depends upon her." It is to combat such ideas as these I have written. The queen is of no more importance than the hive, the combs, or the location. By importance I mean, in this case, that which can by some decision, or management of the bee-keeper, be made to contribute to his success.

SHALL PROSPECTIVE CANDIDATES BE DISCUSSED IN ADVANCE OF NOMINATIONS?

When I saw that my term of office as Director expired this year, and learned by correspondence that Mr. Brodbeck did not wish for re-election, it seemed to me that I could do better work for the Association as Secretary than I could as Director, accordingly I sent out a circular asking members to vote for me as Secretary. This circular was not sent to the whole membership, as it would be quite expensive, and it was thought the same results would be secured if sent to only part of them. Not sending it to all of them was a mistake. Perhaps sending it at all was a mistake. At St. Louis there met men who had received the circular, and those who had not. They compared notes, and scented a "scheme." From this there developed some ill-feeling and dissension. Feeling that we had had a great sufficiency of this of late, I at once withdrew my candidacy.

Since then hints and reports have come to me from various sources to the effect that some of the men who opposed my candidacy so vehemently, have since been working "under cover" for the election of another man. Whether or not these reports are true, there ought to be no occasion for such work. There ought to be some honorable, *public* method of discussing candidates in advance of nomination. If some man, or set of men, have some man whom they wish to present as a prospective candidate, there ought to be some public method whereby it can be done. If some one else has a candidate, let him be brought forward. And so on to the end of the list. I think all of this might be done in the bee journals. In the past the candidacy of certain men has been urged in the bee journals, but nothing of the kind has been done this year, and I suppose the reason is that it was thought that nominations in advance of election would answer every purpose, but they *do not*. In these nominating ballots the members are as much at a loss as to whom to vote for, as they were formerly as to whom to vote for at the regular election. Our nominations in advance of election enable us to concentrate our votes upon two men instead of scattering them among a hundred or so. Before, it was simply impossible to elect any man except the man already in office; now it will be possible to elect some other man if we *prefer* him, which is a decided advantage. Dr. Miller, as I understand

him, objects to the small number of candidates (two) and would have a larger number—how large I don't know. His objection to the small number is that "wire pulling" might nominate a man who was not the choice of the majority. Suppose six men are to be nominated as candidates, couldn't "wire pulling" *elect* one of these just as easily as it could *nominate* a man?

In our State Associations, where about the same men meet year after year, and become well acquainted, it is possible to elect the best man to office, but in the National Association there is a lack of this intimate acquaintance with all of the membership, and there is a tendency to elect the most popular or best known man—perhaps a man who writes a great many articles, or the editor of a bee journal. These men may make good officers, and they may not. Because a man is well-known and popular is no sign that he would make a good officer. Perhaps this is not the time and place to discuss these matters, but before another election, I think they ought to be freely discussed. It seems that I made a mistake in the matter, and some decision ought to be arrived at, that others may avoid similar mistakes.

One more word in closing: There were two or three attempts, at the St Louis convention, to secure the endorsement of some man for some office. They failed, and I think it well that they did. It would have established a precedent, and in time it would have come to mean an election, if endorsed by the National convention, thus practically putting the power of election in the hands of the convention, to remedy which the constitution was recently changed.

With patience and perseverance, we will eventually straighten out this snarl, just as we have straightened some of the others in which the National has become entangled.

EXTRACTED DEPARTMENT.

PROPOLIS.

How it Differs in Different Localities.

The following article from J. A. Green, and printed in Gleanings, shows how propolis differs:

Judging from the references to it in the bee-journals, one would suppose it to be the common belief that propolis is a substance of uniform source, composition, and character. As a matter of fact, since propolis is gathered, and not secreted like beeswax, it varies widely in its qualities, almost as much so as honey, according to the source from which it is gathered. If we will bear this fact in mind we shall avoid much misunderstanding.

As an illustration, the editor of the Review announced some time ago that lava soap would remove propolis from the hands. One of the largest dealers in bee-keepers' supplies, on the authority of this, advertised this soap in his catalogue. Important, if true. But lava soap unaided will not remove the brand of propolis that *my* bees gather. On the other hand, there are localities less than fifteen miles away where the propolis can be readily washed from the hands with any good soap and hot water.

I usually get it off my hands by soaping them well, then pouring on a little aqua amonia, which, in connection with the soap, takes it off readily.

Another good way, not quite so pleasant, but easier on the skin, is to rub the hands with kerosene, then use soap. You may not need these things, or they may not work with you. If they do not, remember that there is more in "locality" than some people are willing to admit.

Whatever became of all the devices for cleaning the propolis off from sections by machinery that occupied so much space in the bee-journals several

years ago? Most of them would probably be of some use in putting an extra polish on sections when the propolis was cold and brittle, but they were of no use when it was soft and sticky, and a very little honey on the outside mof the section soon put them out of co mission.

Now we have a scheme for cleaning the propolis off from sections by rubbing them on a piece of coarse wire cloth stretched tightly over a strong frame. Perhaps I ought not to condemn the plan without having tried it, but I am afraid it would be of little use unless the propolis is cold and brittle. In this country, at least, most of the sections must be cleaned before the propolis is in really good condition to scrape.

ADOPTING APICULTURE.

If We are Going to Make a Business of Bee-Keeping, How Shall We Go at It to Learn the Business?

There are probably some of the readers of the Review who are keeping bees in a small way, only; and there may be some of these who are thinking of going into the busihess extensively; and some of these may be asking themselves: "How shall I learn the business ?" If there are any such, I know of no better advice than that given years ago by Mr. James Heddon in his book "Success in Bee Culture" On this subject he says:—

When one has decided to adopt bee-keeping as a business, the question may then well be asked, "how shall I commence ?" I will give you my opinions regarding the subject—opinions based on experience.

In these remarks I shall suppose that the sole purpose of adopting our pursuit is that of making money at a reasonably agreeable calling. For all other classes I have nothing to say. But now let me consider the best way to get properly started in the business. With this, like all other pursuits, the very first acquisition needed is a knowledge of its laws and principles. With this knowledge you will know how to choose a good field. You will know enough to choose one that is unoccupied, and that you can likely hold sole possession of. Besides these basic principles, you will have an understanding of the detail manipulation of the apiary.

Now, in my judgment, the best way to get possession of this knowledge, which is absolutely necessary to success, is to do just as you would if you were going to practice law, ship building, rearing silk worms or speckled trout, viz: Engage yourself with some experienced and successful business man of the same calling, and with him and his fixtures study the business both in theory and practice. You will get your theory from the best literature upon the subject, and social converse with your employer. This will increase your talent. You will get your practical knowledge, made up of thousands of methods, styles and movements, by working at the business and among its fixtures. That knowlege will increase your tact. Now, the reason why I suggested the successful man only, is because this tact is usually found in company with success—in fact it is a parent of success, and is to a certain degree catching, and the ways and means adopted by the man of tact, are authors of success.

During this apprenticeship you must mingle your thought with your labor in a proper degree, for in the business you are as much a student as an apprentice. After you have spent one or two seasons according to your aptitude) in this way, you are competent to start in the business, with a capital that will support you and yours, and command your best mental and physical efforts, for most of the year. If you have not the capital, you are fitted to command wages in advance of the common laborer, and if acquaintance has inspired your employer with full faith in your integrity, you can likely get all the capital you need, to accompany your strength and skill. Many offer bees for sale, but I want to tell you that if I could get competent. honest men to work for me, at wages hinted at above, or work an apiary on shares, I could make more by not selling a bee, but placing my surplus stocks in another unoccupied field, with this employe to handle them.

I give it as my solemn conviction, that no man should ever attempt this business that has failed in all others in which he has been engaged. The bees do not "work for nothing and

board themselves;" that "small children" and "invalids" are not eminently adapted to honey production. Experience has taught me that if there is any business in this world that demands industry, skill and tact, to insure success, it is this of ours. By attending conventions, visiting bee-keepers, and entertaining many who visit me, I have learned that successful apiarists, as a class, are more than ordinarily wide awake and intelligent.

The beginner almost invariably wants to know how many pounds of surplus honey he may expect from a hive in good season. Why don't he ask how many pounds in a bad one? Really, why don't he say how much is honey worth on the markets of the world? Is it likely to hold up to that figure? How much do you think it costs to produce honey per ton? Do you know of any good, unoccupied fields? About how many pounds of surplus do you think such a field would yield annually, on an average? What would be the best number of colonies to keep to secure it? and a whole lot of such questions as these.

Now, honor bright, would not these questions be more likely to be correctly answered by some experienced producer than any one else? If I should hear a young man asking questions like these, I would feel sure that he had served at least a year with some experienced apiarist, and not in vain either.

I believe that no business is less adapted to becoming a side-issue or adjunct to some other, than this of ours. On the other hand, I think it will become a specialty with the successful ones, and these men will be men of energy, intelligence and tact.

The days of dabbling along with two or four colonies; picking up bee wisdom; throwing away one and making another style of hive each year, are nearly over.

Seventeen years ago I began bee-keeping in this way. The production of honey has increased many fold since that time, and the profits of the same have greatly decreased. Had they been no greater then than now, I think my attempts at apiculture would have proven a failure. I am positive that had I then apprenticed myself to some such successful apiarist as Adam Grimm, who, it is said, cleared $10,000 in one year from his large apiaries, I would, ere this, have no further need for bees, nor their product.

WINTERING BEES.

Mr. Cheshire's Views on Hives, Protection, Ventilation, etc.

A more scientific work upon bee culture than Cheshire's, has probably never been written. Just now, as winter is coming on, it may be worth while to consider some of his views on the subject of wintering. I would gladly copy his entire chapter on wintering, but lack of space prevents. The best I can do is to quote some of the more important paragraphs, which are as follows:

Honey as a food enters into the living fabric before it furnishes material for oxidation, yet it remains true that loss of heat is exactly equivalent to loss of honey. This points to making the surrounding of the cluster as non-conductive as possible, not only thus saving stores, but the vital energies of the workers, which must otherwise also be consumed in keeping up temperature. The hive walls first require attention. The volume of opinion in favor of highly non-conductive hive-sides would put the question beyond the necessity of discussion, were there not some who constantly seem to imply that bees need little protection, and that probably thin hives are the best. It should be instantly conceded that thin sides are practically as good as the most non-conductive if too much space is given, or if the top covering is deficient. It is useless to fasten the window if the door is off its hinges. Mr. Raitt's pithy saying, "The best protection for bees is bees," is perhaps the most incisively expressed argument we have in favor of abundant protection. Little lots winter badly, but cover them by bees that will absolutely prevent their heat escaping, and you give them the best possible protection. But do not the protectors need help? Yes; by more bees if we can provide them, by the best non-conductors available if we cannot.

The evidence that strong stocks come through all right in thin hives proves little, and is no test. The plan that will enable the very weak to winter well on small stores must be the most helpful to those that are strong; and experience shows me that there is no

risk with a pint of bees on two frames, properly handled, in the South of England, and I have wintered a teacupful, which subsequently built itself into a stock, with no help beyond food. We have no need to see how much our bees can sustain, but should rather desire to bring them through till April, little tried, and ready for the severe labor of giving us the nurses for the heavy population which is to do the work of honey-gathering, and so prevent spring dwindling, which I venture to believe, in common with some of the best observers, is almost always the result of excessive effort, rendered necessary by poor protection.

Some years since, I made experiments on hive walls. I took a number of tin chambers, each holding 12oz. of water. After filling with water at two-hundred degrees, they were placed in boxes, representing different descriptions of hive sides, all of which had been before carefully brought to a uniform temperature, and then the time occupied by each in falling through a certain number of degrees was noted. For this, very delicate thermometers were used, and the calculations based on Newton's Law of Cooling. The following results were made clear: If a hive side of ⅝in. pine have its protective power represented by 1, that of a double side with 1 in. dead (?) air space would equal 4, while the same wooden sides packed tightly with chaff would equal 10. Further experiments proved that cork-dust (a waste product used for packing Spanish grapes, as sent to this country), in lieu of the chaff packing, gave a non-conductivity to be represented by 14. The cork has many advantages; it is perfectly effective even with poor carpentry; it is not liable to mildew, and if it becomes damp, it does not droop down between the wooden skin, as chaff would do.

In thin hives, in hard weather, the inner face of the wood is too cold to permit the bees to touch it, so that they are driven to remaining in the middle of their frames, exposed on all sides. In those packed as described they winter, by preference, against the hive wall, and are thus only exposed on one side, while they close the frame ends for themselves, and can always pass freely from comb to comb without a possibility of getting lost in detachments; in addition, by having the entrance 5 in. or 6 in. long at the corner, the bees have always sufficient air, and work round the hive as the store is consumed.

The idea that thin walls are superior to thick because the sun's heat in spring passes through to warm the bees is certainly inaccurate. If the transitory advantage existed, it would be at the cost of constant loss, but it does not exist. Bees maintain sixty-five degrees, and must uninteruptedly, though very slowly, lose heat through the hive walls until this becomes the temperature of the external air. Those, therefore, in the thicker hives will be warmer until this external temperature is reached, but before then the bees would be in full flight, and beyond the need of sun-warming.

I strongly advocated, in former years, that ventilation should be allowed through the top cover; further developments have made it doubtful whether this is so necessary as was supposed. If a sufficient opening (of 5 in. or 6 in. at least) be allowed at the entrance (in addition, a ring of wood, 2 in. deep, between the hive and its floor board, lifting the frames, is a valuable assistance), top ventilation may be omitted, and American cloth be placed over the bees. It has, however, many disadvantages. I prefer *slow* upward ventilation, and earnestly advocate a chaff-tray, regarding the splendid covering it affords as far more important than the hive side itself, especially if we give space above the frames, when notions of portability and cheapness may make us content with single sides, notwithstanding their inferiority to cork-packed ones. For wintering, the chaff-tray should hold 4 in. or 5 in. of chaff, well patted down. The sacking should be loose, so that it may fit the hive top accurately, for small crannies allow most damaging leaks of heat. Carpeting fits badly; if creased at all, a direct through current, which punishes the bees severely, is permitted; and on the usual thin hive side it is hardly possible to avoid those gaps which have made many denounce all top ventilation, quite overlooking how often this has been given in a manner all must condemn.

Dampness is a great enemy to wintering bees. Prof. McLain noted the critical temperatures be less in a damp than a dry air, the reason being that water has an enormous capacity for heat (specific heat), whether in the liquid or vaporous form: the latter abstracts heat from the bees, and intesi-

fies their struggle. The water produced by the honey is thrown off in vapor, because the cluster is warm. If the hive is thin, or the bees small in numbers, and, in consequence, distant from the sides, or if the top protection is scanty, the heated vapor is immediately deposited as dew, and the interior is wetted. When the sides are so non-conductive that the inner faces are not below the dew point of the interior air, the hive remains dry; and since wood conducts more freely than cork-dust, the inner lining should be as thin as notions of strength will allow. In *gentle* top ventilation, the heat of the cluster just beneath the roof keeps the part in contact with the bees both warm and free from damp, and the air passes off carrying the moisture with it. The combs below are not mildewed, nor do they run with dew. If dampness appears at all, it is behind the runners, beneath the ear, where the temperature commonly falls to the lowest point; this, however, causes neither damage nor inconvenience.

Bee=Keepers Look Here!

Do you wish to buy bees or queens the coming season, or do you want an apiary already located in South Texas? If so, we can supply you. We have 4,000 colonies of bees to sell the coming season, and will sell them in any way it best suits you. We will sell here, location and all, or will ship them to you in any quantity you may wish. We mean to please you in the way of bees and queens, and a trial is all we shall ask to convince you

We make a specialty of bees in carload lots, also 1-, 2- and 3-frame nuclei and full colonies ready to go at all times. Prices cheap, quoted on application. We produce queens in a wholesale way and are never undersold with the same quality of queens

Untested queens from now until February 1st. $1.00 each, or $9 00 per dozen. Tested $1.50 each, or $12.00 per dozen.

We breed 6 different races in their purity, from 6 to 30 miles apart.

Our new 1905 catalogue will be ready to mail Dec. 1st, which will describe these different races of bees and their management write for it We have a large stock of honey cans for sale at all times, and will buy your honey in season. Highest market price paid for bees wax at all times; wax worked into foundation on easy terms. Address,

THE BEE & HONEY CO.
Will Atchley, Prop.
Beeville, Bee Co., Texas.

5%

Discount on all orders sent in during November. By sending your order now you will save money and secure prompt shipment. Our Hives, Sections, etc., are of perfect workmanship. Send for catalogue —free for the ordering.

PAGE & LYON M'F'G CO.,
New London, Wis.

10-04-tf

Comb and Extracted

Honey Wanted.

State kind and quality, how put up, and lowest price.

CHARLES KOEPPEN,
Fredericksburg, Va.

6-04-9t.

Reduced Prices

Good for the balance of the season only.

As I desire to unite my nuclei as soon as possible, I will sell Italian queens at the following low prices until my present supply is exhausted.

Untested queens, 60c each; six or more, 60c each. Safe arrival and satisfaction guaranteed. Send for circular and read reports from enthusiastic cuatomers.

J. P. MOORE,
Morgan, Pendleton Co., Ky.

Dittmer's Foundation

Retail—Wholesale

Has an established reputation because made by a process that produces the CLEANEST and the PUREST, and in all respects the BEST and the most desirable. Send for Samples.

Working wax into Foundation For Cash

Is a specialty. BEESWAX ALWAYS WANTED AT THE HIGHEST MARKET PRICE.

A Full Line of Supplies at Both Retail and Wholesale.

Send at once for Catalog and discounts on large orders.

E. Grainger & Co., Toronto, Ontario, Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

Please mention the Review.

THIS PAGE Will Interest You In The Next One.

HERE IS A LETTER MR. HUTCHINSON HAS JUST WRITTEN ME

W. B. HOUSE,
DeTour, Mich.

Friend House:—I believe you are thinking of using two pages in the Nov. issue. Of course I don't know what it will be, but it occured to me that you might, in some of these ads., like to use the editorial that I had in the Review some two or three years ago on the manner in which *YZ* had helped Mrs. H. and me. The older subscribers may remember it but there are a lot of new ones, and it would do no harm to recall the matter to the attention of the older ones. If you would like to use that testimonial in some of the ads. you would be welcome to do so.

As ever yours,
W. Z. HUTCHINSON.

Y ***I can say nothing myself better than is so heartily and honestly said by Mr. Hutchinson on next page. It will certainly interest you, and it is the truth.*** **Z**

This is Good Reading

See Opposite Page for Explanation.

YELLOWZONES.

I am going to do something I have never done before, and may never do again, and that is to recommend, through the Review, a medicine. Its name is "yellowzones", and it is manufactured by W. B. House, of DeTour, Michigan. The doctor is "one of our folks," so to speak. He is interested in bees, a subscriber to the Review, and is, I believe, the one who wrote the glossary in Root's A B C of Bee Culture, and made the first two revisions of that valuable book.

Yellowzones are not a secret preparation. The doctor tells exactly of what they are composed, and if you wish to consult with your own physician before using them, you can do so. A box received by us, a month or two ago, came, as good fortune would have it, on the very day Mrs. Hutchinson was down with one of her severe headaches. For years she has been afflicted in this way, and we had never found anything that would stop them—once the attack commenced it had to run its course. Within ten minutes after we began giving yellowzones the pain eased off and she went to sleep.

A week or two later I was awakened by neuralgia of the stomach. I lay quiet, hoping it would go away, but it gradually become more severe. Finally I slipped out of bed and took a yellowzone. The pain ceased *instantly*, and I dropped off to sleep as though nothing had happened. Since then, I am satisfied that by the use of yellowzones I warded off an attack of La Grippe. I am not very much in favor of "doping", it is better to so live that there will be no need for medicine, but with the environments in which some of us live, it is well nigh impossible to entirely avoid the use of medicines; and when their use does become necessary, we wish those remedies which will "do the business." Yellowzones are "HOT SHOT" to pain and fever. If you wish to know more about them, write to Dr. House. Let me close by saying that Dr. House knows nothing of this notice that I am giving his medicine—he will probably be the most surprised of anyone who reads it.—*Editorial' by W. Z. Hutchinson, B. K. R. March, 1901.*

A Final Thought Concerning It.

My Friend, you have read the above honest, spontaneous testimonial. You and I are strangers, but most of you know Mr. Hutchinson and you know that no such testimony would ever have found place among his editorials except after the most deliberate thought, and with an honest desire to help his people. And you know, too, as well as I do, that MONEY could not have bought any such notice.

I believe, my friend, that both you and I are honest. I guarantee to return your money, AND SEND ANOTHER BOX, if not entirely satisfied. Now on such a guarantee, backed by such testimony, YOU ARE NOT RISKING the dollar that you will send right now for a box of yellowzones.

Price $1.00 per box; trial size, 25 cents.

W. B, HOUSE, M. D., De Tour, Mich.

Dadant's Foundation

Why Does it Sell so Well?—Because it has always given better satisfaction than any other. Because in 26 years there have been no complaints, but thousands of compliments.

We Guarantee Satisfaction—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

Beeswax Wanted at all Times—Send name for our Catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

Langstroth on the Honey-Bee, Revised. The classic in bee-literature. $1.20 by mail.

DADANT & SON,
Hamilton, Illinois.

L. C. & A. G. WOODMAN, Grand Rapids
Agents for Michigan

3-04-10t

BIG DISCOUNTS on Bee Supplies, Berry Boxes and Crates now while we can serve you promptly. Address

R. H. SCHMIDT & CO., Sheboygan, Wis.

LARGE, HEALTHY, PROLIFIC,

Beautiful Italian Queens sent promptly by return mail at only **50 cts each.** Safe arrival and Satisfaction guaranteed. J. W. K. SHAW, & CO.

7-04-tf Loreauville, La.

Please mention the Review.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

Winter Cases, 90c.

Good, strong, well-made cases, neat appearing, made to protect the bees in the most severe winter.

We have a lot of these left over, slightly discolored by smoke, during a fire in the factory a few months ago. These sell ordinarily at $1.20 each. While they last, each 90 cents. Send your order at once. **Cheapest House on Earth. All Goods Guaranteed or Money Back.**

Doll's Bee Supply Manufacturing Co.

Power Bldg., Minneapolis, Minn.

Are you looking for

QUEENS?

If so I can furnish you queens of the following races by return mail:

Three- and five-banded Italians, Cyprians, Holy Lands, Carniolans and Albinos.

Untested, of either race, 75c each; Select, Untested, $1.00 each; six for $4.00; twelve for $8.00; tested, of either race, $2.00 each; six for $10.00; one dozen, $18.00; Breeders, $4.50 each. Safe arrival guaranteed.

B. H. STANLEY,
7-04-tf Beeville, Texas.

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price ist, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

FOR SALE—8 frame Bee Hives and fixtures, Langstroth size. F. T. HOOPES,
10-04-2t East Downingtown, Penn.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price. $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. One year's subscription to Bee Journal Free with orders of $5.00 or over. Send for free list.

W. D. SOPER,
R. D. 3 Jackson, Mich.

Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf GREENVILLE, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder

513-515 Mass. Ave.

INDIANAPOLIS, IND.

What They Say!

Hillsboro, Wis.

W. H. PUTNAM,

River Falls, Wis.

Dear Sir:—I delayed answering your letter until I had read the June number of the Rural Bee-Keeper, and must say as a Bee-Keeper of 22 years' experience I am more than pleased with it, regardless of the assertions of some that the publishing in this line was already overdone, and if the improvements continue it will certainly be second to none within its first year of publication. I consider the June number alone worth several years' subscriptions, to any practical livebee-keeper and will say let the good work go on and on. You have a good field, and the fact of our having a Bee Journal published in our own state, should be a lasting stimulant to all bee-keepers of Wisconsin and the Northwest, and 50c certainly cannot be invested to better advantage. You may send me some more blanks. Yours truly,

ELIAS FOX.

Send 10c for three back numbers or 50c for one year.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at its Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY —All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent.; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY, MO.—There seems to be a firm feeling at present pirces. Beeswax in demand. We quote as follows for 24-lb. cases. Fancy White, $2.75; No. 1 White, $2.65; No. 1 Amber, $2.50; White, Extracted, 5½c to 6c; Beeswax, 25c to 28c.

WALKER-BREWSTER GROCER CO.,

Aug.30 423 Walnut St. Kansas City, Mo.

CINCINNATI—There is a marked improvement in the demand for comb honey since our last quotations. No material change in the extracted honey market. We continue to quote white clover, extracted honey in barrels and cans, at 7 to 8½c. Amber, in barrels, 5¼ to 6c. Fancy white clover comb honey, at 14 to 15c. Beeswax 28c.

THE FRED W. MUTH CO.

Oct. 28. 51 Walnut St. Cincinnati, Ohio.

BUFFALO —As cool weather approaches demand improves. Moderate shipments are advised until October and November. Lots of old honey here that is almost unsaleable. We quote as follows:—Fancy White 15c to 16c; No. 1 white, 13c to 14c; Fancy Amber, 12c to 12½c; No. 1 Amber, 10c to 11c; Fancy Dark, 8c to 9c; No. 1 Dark, 7o to 8c; Beeswax, 28c to 32c.

BATTERSON & CO.

Aug. 31 159 Michigan St. Buffalo, N. Y.

PHILADELPHIA—Shipments have been quite heavy in the last two weeks. Prices are a little weaker in consequence, although fancy honey maintains a good price. We find the shortage is always in the fancy goods, and the off goods are what overstocks the market. We quote some sales as follows: Fancy white comb, 16 to 17 c., No. 1, 14c.; amber and No. 2, 12 to 13c.; extracted honey, white, 8c.; amber 6 to 7c. We are producers of honey and do not handle on commission.

WM. A. SELSER,

Oct. 25 10 Vine St. Philadelphia, Pa.

CHICAGO—The market has an over supply of comb honey, very little of which will pass as No. 1 grade—price is 11 to 12c per pound, and off-grades at corresponding values Extracted at 6 to 7c per pound for best grades of white; amber colors, 5 to 6c; beeswax, 28 to 30c.

R. A. BURNETT & Co.,

July 27 199 So. Water St., Chicago, Ills.

NEW YORK—Very little new comb honey is arriving as yet and prices are not established. Extracted in fairly good demand, with plenty of supply. Beeswax is dull and declining. We quote as follows:—Fancy white, 14 c to 15c; No. 1 white 13c; fancy amber, 12c; No. 1 Amber, 11c; white extracted, 6½c to 7c; amber extracted, 5½c to 6c: Beeswax, 28c.

HILDRETH & SEGELKEN,

265 & 267 Greenwich St., Cor. Murray St

Sept. 1 New York.

CINCINNATI, OHIO.—Comb honey is now coming in more freely, and prices, if anything, have a little moderated The sales made and prices obtained were on No. 1, fancy water white, 13c and 15c; No 2, 13c and 14c. Extracted is sold as follows: White clover in barrels, 6½c, in cans, 7½c and 8c; amber in barrels 5¼c and 5½c, in cans 6c and 6½c; beeswax, 26c.

C. H. W. WEBER,

Oct. 20 Cincinnati, Ohio

CHICAGO—During the past week or so we have had considerable inquiry for New Comb Honey, but the supply is rather limited. If shippers have any new Comb Honey ready, we would advise letting it come forward, or write us what they have to offer and lowest price. Trade on Extracted Honey very quiet, demand limited. We quote as follows: Fancy White 12 c to 13c; No. 1 white, 11c to 12c; hite, Extracted, 6c to 7c; Amber, extracted, 5½c to 6c; Beeswax, 26c to 30c.

S. T. FISH & CO.,

Sept. 1 189 So. Water St., Chicago, Ills.

KANSAS CITY, MO.—With cooler weather the demand for honey is slowly increasing, and the market is firm Beeswax in good demand. We quote as follows for 24-lb cases: Fancy White $3.00: Fancy Amber, $2.25 to $2.50; hite, Extracted, 7c lb; Beeswax, 30c.

C. C. CLEMONS & CO.

Aug. 30 Kansas City, Mo.

ALBANY, N. Y—The demand for honey is improving some as the season advances. We think present prices are good to take, for from information throughout the country, would seem to be a larger crop than last season, although the crop in this vicinity is short. We have to depend on outside producing sections. We quote as follows: Fancy White, 16c; No. 1 White, 15 c to 16 c; Fancy Amber, 13c to 14c; No. 1 Amber, 12c to 13c; Fancy Dark 12c to 13c; No. 1 Dark, 11c to 12c; White, Extracted, 7c to 7½c; Amber, Extracted, 6c to 6½c; Dark, Extracted, Beeswax, 28c to 30c.

H. N. WRIGHT,

Wholesale Commission,

Sept. 1 Albany, N. Y.

DISCOUNTS

On orders for next season's stock received with cash, at catalogue prices, we allow the following discounts.

Orders in October, 6 per cent.
" " November 5 "
" " December 4 "
" " January 3 "
" " February 2 "

This applies to all general orders, such as hives, frames, sections, foundation, and other bee-keepers' supplies too numerous to mention, listed in our catalogue before page 2o, including pages 28, 35, 36. Prices remain the same, as last season except the Root German Wax press which is reduced to $12.00.

Reasons for Ordering Supplies Early:

1st. You save money by receiving a discount.
2nd. You are able to make up your hives at a convenient time.
3rd. You save the annoyance of being out of supplies and cannot obtain them.
4th. You are ready for the honey flow.
5th. You get all the honey and increase.
6th. You will not get discouraged by a failure that could be avoided.
7th. You will help ourselves and our agents to give you better service.

THE A. I. ROOT COMPANY

FACTORY AND EXECUTIVE OFFICE

MEDINA, OHIO

BRANCHES

Chicago, Ill., 144 E. Erie St.
Philadelphia, Pa., 10 Vine St.
New York, N. Y., 44 Vasey St,
Syracuse, N. Y., 1635 W. Genesee St.
Mechanic Falls, Maine.
St. Paul, Minn., 1024 Miss St.
San Antonio, Texas, 1322 South Flores Street.
Washington, D. C., 1100 Md. Avenue, S. W.
Havana, Cuba, 17 San Ignacio
Kingston, Jamaica, 141 Harbour Street

DECEMBER, 1904



At Flint, Michigan—$1.00 a Yea

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 203

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Dec. 15, 1904

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(.50)	1.35
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

J. U. HARRIS, Grand Junction, Colo.
President.

C. P. DADANT, Hamilton, Ill.
Vice President

GEO. W. BRODBECK, Los Angeles, Calif.
Secretary,

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C. A. HATCH, Richland Cen., Wis.
C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates). and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now havea type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala....	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss....	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.....	130	W. Va....	172
Iowa..	800	N. H. ...	158	Wash....	128
				Wis.....	625

W. Z. HUTCHINSON, Flint, Mich.

We want the readers of

The Review

to read our Journal. It has just entered its second year, with a list of 3,000 subscribers—think of it—Have you ever heard of a Bee Journal with such a record? Now, for a good year's work. Won't you help?

Send $1.00 for a year's subscription.

THE WESTERN BEE JOURNAL

P. F. ADELSBACH,
Editor,
KINGSBURY, CALIFORNIA

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

If the

REVIEW

Is mentioned when answering an advertisement in its columns a favor is conferred upon both the publisher and the advertiser. It helps the former by raising his journal in the estimation of the advertiser: and it enables the latter to decide as to which advertising mediums are most profitable. If you would help the Review, be sure and say "I saw your advertisement in the Review," when writing to advertisers.



THE FOUNTAIN PEN

has the "LUCKY CURVE"

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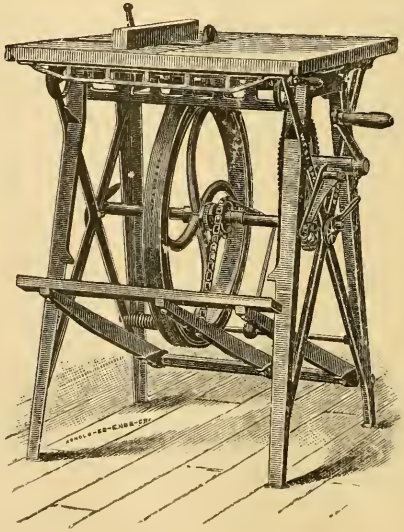
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Construction and Management of House-Apiaries.

BY FRED H. LOUCKS.

TO start with, a bee-keeper usually would ask, why have a house-apiary at all ?

ADVANTAGES OF A HOUSE-APIARY—ESPECIALLY FOR AN OUT-APIARY.

There are several reasons why the house-apiary, especially at an out-yard, is very desirable. Here are some of its advantages: Security from thieving boys, its use as a store-house for supplies, implements, etc., the shelter it affords, to bees and operator, from the scalding sun or drenching rain, the evenness of temperature maintained in the spring, thus forcing brood rearing rapidly, the avoidance of at least one-half the stings, the opportunity for doing double the amount of work in a given length of time, and, lastly, the greater amount of work done by the bees. While I do not unreservedly advise house-apiaries for the home yard, yet for the out-yard, I think they are just grand.

CHOOSING A SITE FOR AN OUT-APIARY.

The first step is the choosing of a site, and this is very important. Go slow; study the soil; the lay of the land; the winds; the neighboring people; and, especially, the pasturage. If possible get in range of a large variety of honey plants; and don't figure on your bees working advantageously more than 1½ miles in a straight line from their hives. Look for early and late blossom; early, pollen-bearing plants will help greatly to build up the bees in the spring. My East Martinsburg house-apiary has a creek running within 20 feet of it, with tag alders along its banks, and these bees always build up faster than any others I have. I think it is because the pollen supply is so near.

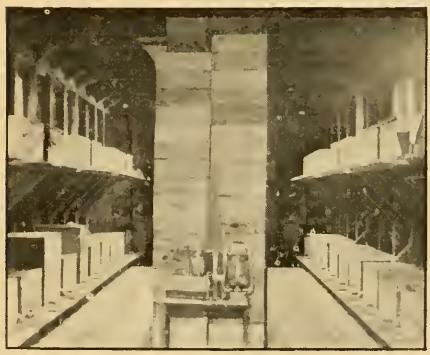
The spot where the building is going to stand should, if possible, slope gently towards the east, as this is a warmer lay in the spring months. I would

also try, to get near a running spring of water, one into which I could get a ¾ inch pipe if I should so desire. I am supposing that a cellar is to be built under the house-apiary. It is an advantage to have the house-apiary partly protected frem the wind, but not entirely so, as it would then entice the bees away on too cool days, when they would be chilled and unable to return. The drive to the apiary door should slope from the house, so one could draw a loaded wagon away a short distance in case the bees should become cross. It is best to buy the site, and get a deed of it. A piece 6 x 8 rods is large enough, and, when from the corner of some farm, ought to be bought for $50.

Don't encroach on territory occupied by another; and be sure to beep on good terms with all the neighbors.

THERE SHOULD BE A GOOD CELLAR UNDER A HOUSE-APIARY.

The first step in building is to dig the cellar, and I would plan to have it all under ground, as this will greatly aid in maintaining an even temperature. As to size, 12 x 20, outside meas-



NO. 1, SHOWING GENERAL VIEW OF INTERIOR.

urement, with a two-foot wall all around, leaving an inside room 8 x 16 x 6 feet high, will accommodate 100 colonies, and not be crowded. Have a good drain, and a cement bottom with a little trough all around next to the wall.

Now for the spring water I spoke of before. Pipe it into this cellar, and let it run in the cement trough, unless you want to go to the expense of putting in a coil of pipes around the cellar near the bottom. I let mine run in the trough, and see naught but good from it. We dug out a spring at my Wilcox yard, and the water controls the temperature to a degree, all winter, no matter how cold or warm it may be outside. A temperature of 41 degrees is maintained, from fall to spring, with a 5-inch ventilator working all the time. I stop the large ventilator all up except a 5-inch stove pipe packed in tight.

BEE CELLARS NEED VENTILATION.

I tried no ventilation but did not like it. The air was so dead that it would scarcely keep a lantern burning; which showed that the oxygen was lacking, I know my bees are more quiet when surrounded by a good pure atmosphere. None of us can live healthfully without a goodly supply of oxygen.

My ventilator, when open in full, is 1 x 3 feet, and 25 feet high; taking air from the bottom of the cellar. I have never opened it to its full capacity when the bees were in the cellar, as I originally intended to do in the spring months. There seems to be no call for so doing.

The top of the cellar is very important, and must be a series of air-spaces and non-conducting material. Mine has lath and plaster, a three-inch air-space, one-inch floor, two thicknesses of tarred paper, one-inch floor, four inches of sawdust plaster, a four-inch air-space, and then the floor of the building. This top is such a perfect non-conductor that there is no condensation of moisture dripping from the ceiling. This cellar will cost about $75.

DETAILS OF CONSTRUCTION IN BUILDING A HOUSE-APIARY.

Now that the cellar is built, the next step is that of putting on the sills. Lay them in mortar having the center of the sill come on the center of the cellar wall. The corners should be supported on gas pipe, having a foundation below the frost line; and inside of a larger piece of gas pipe coming a little above the ground, to which the dirt will freeze, and not effect the main one, inside, supporting the building. After putting in the joists I lay the floor next, as it can be done much quicker, and then I nail the studding right on the floor, putting them two feet apart from center to center. The studding is eight feet long, and planed on three sides so that every piece is alike; in fact, I plane all the scantling going into the building, and cut it all up in my shop at home with a draw saw, which makes every joint square and every piece exactly alike. This greatly facilitates the putting up of a frame, and makes it much nicer than can possibly be done by hand. Commence with a corner stud, and nail on the lap-girts as you go. One girt six inches from the floor, and the other 54 inches, until you get clear around. Of course, the studding must be kept plumb. Next, put on a 2 x 4, flatwise, for a plate. I nail the rafters together, in pairs (having a collar beam up six inches from the plate) before putting them up. I like a shingle roof best, as it is a better protection from heat and cold. Don't put on any cornice, unless it is a mere skeleton, as it makes too good a mouse-nest, and occasionally harbors a squirrel. I would have an eave-trough extended as far as the cellar wall, to keep the water from it.

The best siding is cove coping. This gives a smooth surface inside, with only one thickness, which is exactly what we need. The large windows in the gable ends are for ventilating the house in hot weather. They are covered with wire cloth which extends above the windows, thus forming a bee-escape. It is absolutely necessary that every window and door have a wire cloth bee-escape, so that the bees which take wing when we are at work can get out-doors, but not come back inside. I do not glass these large end windows, but have a light door that I put in during the fall, and then take it out when warm weather returns. There are also two trap doors in the house at my Wilcox yard, about six feet from the ends, in the center of the floor, for ventilation. They are about 30 inches square, and are taken out during warm weather and a grating put in. These openings, taking the air from so close to the ground, help greatly to keep down the temperature. It is simply a comfort to work in one of these houses on a hot day, and note the different action of the bees, also their greater activity compared with those out in the sun.



NO. 2, SHOWING SLIDE AND SHELVES WITHOUT WIRE CLOTH BOTTOM.

The entrance holes are 7-16 x 8 inches, and are cut through the siding on a downward slant so that the rain cannot beat in. The alighting boards are 6 x 14 inches in size, and are toe-nailed on even with the lower edges of the en-

trances. They are also given a downward slant. The little boards nailed between each alighting board are to help the bees locate their entrances. Care must be taken to have them snug up against the building, else, under certain conditions, the bees will run along the side of the building and enter the wrong hive. Especial attention must be paid to these little things in the early spring.

The next step will be to put in the shelves upon which the hives set. The original design of this shelf was taken from the F. A. Salisbury house apiary, of Syracuse, N. Y., but I have added much to it which facilitates its working. These shelves are of pine 7 x 28 x ⅞ and are gotten out in pairs. After sizing them, I sort the boards over so as to work in clear stuff, then turn a shallow cup 3¼ x ⅛ inches in one end; then cut a rabbet ⅝ x ⅝ from the center of this cup. This cup and rabbet are for feeding. (See cut No. 3.) The center is a wood frame 10 x 28 x ½, covered with a wire cloth center, through which the bees ventilate their hives. Under this wire cloth center there is a slide 11 x 16 x ½ which closes this space in cold weather, or whenever we wish, and can be slid sidewise under the shelf when not wanted. (See cut No. 2.) This arrangement allows either a tight, or ventilated bottom, at will. The lower shelves are supported directly from the floor and are about 6 inches high on the inside end. The outside end is nailed to the lap girts. The upper tier is supported on braces nailed to the studding to hold the inside end. There is a cross-piece on the braces which should be nailed to the shelf first, just 16¼ inches from the lap girt to which the outside ends are nailed. (See cut No. 1.) This cut gives an inside view of the arrangement. Behind the stack of supers is the ventilator. In front is the set of tools which I have in each house.

If a person wished to go to the expense, there could be a second, or upper floor, thus doing away with the upper deck of shelves, but this would make the building cost considerably more. The entrances are contracted by means of little tins, 2½ x 4 inches, with a ¼ inch turn at right angles to keep them straight. Two for each entrance. I use an entrance guard and drone-trap about a month. This trap is 11 inches long, 4⅝ inches wide and 5½ inches high.

SPRING MANAGEMENT.

The first operation in the spring is that of taking the bees out of the cellar, and, as in all other manipulations, be sure to have everything in readiness and keep the bees under control. I take off the bottom boards when cellaring, so when it comes time to take them out, I fill the cellar with smoke from a Bingham smoke engine, keeping it going in the cellar until done. Of course, it is a little hard on the person in the cellar but the bees handle so much nicer, and it does not take long in a house-apiary, as two can set them out in less than an hour. Be sure that each colony goes back on the same shelf that it occupied before, so as to avoid confusing the bees. That bees are thus confused is a fact, not theory, especially in a house-apiary. Last spring, when setting the bees out, I noticed bees rushing in an entrance where there was no hive. Upon examination I found the colony was on the wrong shelf. I moved them to their original location when the bees of that colony all came there and entered contentedly. To aid the bees in locating their entrance when they are first put in a house-apiary, I lean old boards, rails, brush, or anything contrasting, against the building. After a little time these can be taken away. In taking the bees from the cellar my assistant goes into the cellar and hands them up through the trap-door, and I

take them, turning each hive up to the light, and as I set it on the shelf I contract the entrance to suit the size of the colony. I push the hive back against a ½ inch slat that lies against the coping with the tin slides between the slat and coping. This brings the hive within 1½ inches of the outside of the building; and I would make it less if I could. Have the frames stand at right angles to the siding of the building, and not parallel to it, at this time of the year. Now all that is necessary is to put the block closing the feeding-groove and center in place. After all are on the shelves, I look them over to see that all is tight inside and out. I have a pint fruit jar for each colony, filled with a thin syrup which I give them. It will not be necessary to visit this yard for a week, and not then unless more feeding is to be done. I believe it pays well to feed a pint each week for three weeks. By that time the bees usually begin to gather enough to live on. It is surprising how fast bees build up in a house-apiary as compared with those out in the yard.

I do not open hives much until the beginning of fruit bloom, when the colonies are looked over, especial attention being paid to the queens and to the arrangement of the brood nest, giving more room if needed.

In this locality there is a lull in honey gathering after fruit bloom before the white harvest commences, and it is during this period that I get everything in readiness to hustle when it comes. The studied aim should be to have as many workers ready as possible to commence when the white clover bloom begins.

In working for comb honey I go through the colonies just before white clover commences to flow, and contract each brood-nest to from five to eight Langstroth combs, using wide frames of eight sections each, if there is room to put them in on one or both sides of the brood-nest. In contracting I also use division boards ½ inch and 1 inch thick. At this time I turn the hive a quarter, so that the side of the hive is toward the entrance. I also put in the entrance - guard and drone - trap. This may cause some confusion for a day, but the bees soon get used to going through it, and I positively know it does not hinder the work after the very first. I turn the hive mainly because I can work with the frames much better and handier with the hive in this position. I leave the hive in this position the remainder of the season.



NO. 3, SHOWING SHELF-BOARDS WITH WIRE SCREEN BOTTOM BETWEEN THEM.

The colonies should be, at this time, ready to receive their first super. I use the T super, with bait combs, and tier up as more room is needed. I keep close watch for any indications of swarming, and, if a colony is found getting ready to swarm, I cut out the queen cells, and rearrange the combs so that the ones with the least brood occupy the center of the brood nest. If it should happen to be a very populous colony, I take one or two combs of hatching brood and help one that is nearly strong enough. There are some

colonies that will prepare to swarm every week for four or five weeks in succession, and then give it up; while, occasionally, one will attempt repeatedly to swarm, and nothing but the entrance-guard will keep it. Such a colony will kill its queen, if she does not get caught in the trap, and I let it stay queenless for ten days. Those behaving this way are only a very small per cent. and after this they do very fair work in the supers. If, however, they cease working, I break up the colony and make it into nuclei. I aim to make every colony *accomplish something* towards carrying on the business. After every colony has been examined and treated according to its needs, (and very much must depend upon the judgment of the operator) I lock up the house and leave them far one week.

MANAGEMENT THAT REQUIRES A VISIT ONLY ONCE A WEEK.

On the next visit, one week later, I look each colony over for queen cells. Those just started, and partly along, are destroyed. If the colony is very populous, one or two frames of brood are taken, and empty combs put in their places, or, more properly, in the center of the brood nest. If I can strengthen any weaker colonies advantageously, I do so, otherwise I keep taking out hatching brood, as I look the colonies over, until all are examined, then I form colonies by taking six frames of hatching brood and putting them into an empty hive, giving them a new shelf, and shutting them up until the next visit. If a colony is bound and determined to swarm, I sometimes shake them; but I can get more honey by taking away just enough brood to control the colony, and do not shake unless the colony becomes uncontrollable. I have never been able to make shook swarming a success. The bees do not seem to have any vim. I should have said supers are added at this time to those colonies needing them. At the next visit all colonies formed at the preceeding visit have their entrances opened, and each should contain a virgin queen hatched from a cell given at the time of forming. At each weekly visit hereafter I treat the colonies same as at the second visit, putting on sections as fast as needed and taking them off when finished.

During the forepart of the season, and until there are signs of the flow slackening, I put the new supers under the others, but, as the end draws near, I put them on top.

At the closing of the white harvest I take off all the sections, expand each brood-nest by inserting one, two or three empty combs. Look to the queens; if any are old or failing, pinch their heads off and introduce others reared at home; for the mating of queens in a house-apiary is its greatest drawback. There are too many lost. This does not bother me, as I prefer to rear them at home from selected stock.

Then there was another knotty problem which has bothered me, and others, also. That is, stocks that have been queenless sometime. If we try to give such a stock a laying queen by the ordinary method, she is almost sure to be killed. I struck on a plan this summer that has not failed me yet. If it can be spared I like to have a frame of hatching brood to give the queenless stock, at the same time putting in the laying queen, but have the queen cage fixed so the bees cannot release the queen. I leave thus for a week, and then the bees get so they will beg for her. Then I allow them to release her, which method has been successsul so far. If more increase is desired, the most populous colonies can be divided, having extra queens to give the queenless parts at the time, or soon after the operation.

The zinc slides in the drone trap are removed as soon as we can safely

do it (the middle of July here) giving the bees a free entrance. The trap is put back in position and left thus the remainder of the season.

PRODUCING EXTRACTED HONEY.

For extracted honey my spring management is the same as for comb honey. My extracted honey is produced almost entirely at the East Martinsburg house-apiary. The hive used is the same ten-frame Simplicity. As soon as any colonies need more room I add an upper story of empty combs. This gives the queens and bees plenty of room, and it is not unusual for queens to lay in fifteen combs. I use eight combs in an extracting story. I do not expect a very large amount of honey to be stored before white clover bloom. Allowing the queen to have full swing at this time does much to discourage swarming, if not to prevent it altogether. At the commencement of



NO. 4, SHOWING FEEDERS IN POSITION.

white clover bloom I extract if necessary, and put a zinc excluder between the sets of combs, confining the queen below. If the brood is hatching in the extracting super, or nearly ready to hatch, I take it out, putting in empty combs and use the brood in strengthening weaker colonies. I like to get every colony so it is *doing something* to help on the business, if nothing more than to rear queens. The traps should be put on at this visit. The arrangement is the same as for comb honey, except that when working for extracted honey it is best to have partition boards between the hives, so the bees will not run from one hive to the other, as we work with them. Get out a rectangular board 12 x 18 x ½ then saw it diagonally from corner to corner. Nail it on to the studs and shelf boards. (They are shown in the cut of the feeders.) I once had a great prejudice against drone-traps, but I had to overcome that, for they are a great acquisition for an out-yard house-apiary. As I use them, it is more of a last resort, for a very small per cent. of my bees ever attempt to really swarm. I use them to head off the colonies that are determined to swarm, and would be otherwise lost by going off to the woods. The trap, besides being a queen- and drone-trap, is also a sort of bee-escape. I found that while manipulating the bees in the house-apiary it was necessary to have some place where the bees could get from the outside of the hive to the inside without going through the window-escape. So the ends of the trap each has a 1½ inch hole bored through it, and a wire cloth cone nailed on the inside so the bees can pass freely inside but not out. When I am handling combs and wish to shake the bees off I shake them on the trap which is in position between the hive and side of house-apiary, when the bees will very soon pass inside. I do not look over these brood-nests every week, as with comb honey, as I have found it unnecessary. I keep using the brood from the extracting supers, as it comes to maturity, for I want rousing big colonies when white clover opens. Too many wait until white clover is in bloom before beginning to work up their colonies. All the care these bees get during the very busy season is to see there is plenty of storeroom. I tier up, putting another set of eight combs under the first super, and still another if necessary. This

method brings the extracting after the comb honey rush is over, and the quality is so much better that I feel fully paid for the extra stock of combs, hives, etc. I was once an advocate of green honey; that is, extracting before capping, but that was when I did not know any better. I don't think it makes any difference, as to the amount gathered, for by my method the bees are not disturbed and all broken up, as in the case of extracting every week or so. Hive-ripened honey will always hold the trade in this locality. I believe the wax secured from the cappings is clear gain, as, otherwise, it is dropped on the bottom-board and carried out by the bees; for bees secrete wax when honey is coming in freely whether they use it or not.

ADVANTAGE OF BOTTOM-VENTILATORS.

One of the beauties of the house-apiary is the ventilation and the ease by which the bees secure it. When the colonies get strong enough in the early summer to require more air than can easily be taken through the entrances, I push the slides back, giving full openings at the bottom. We never have colonies hanging on the outside, as in the ordinary yard, on a hot day. The bees are more comfortable inside and stay in at work where they belong.

The increase from colonies run for extracted honey, is best made after the white harvest is over, about August 1st. I have as many little nuclei, with queens from selected stock, as colonies are wanted, and divide the most populous. It is better to take most of the hatching brood and some bees for the nucleus. These little nuclei or new colonies, will build up nicely for winter, and furnish the very best colonies for another season.

FALL-FEEDING AND ITS ADVANTAGES.

My fall treatment is the same for both house-apiaries. If the weather has been favorable during August, many of my colonies will have stored enough for winter. About September 15, I take an inventory, and all colonies not having at least 20 pounds are fed. For feeders at this time of the year I use ordinary gallon syrup cans. Test them, for one that has a hole in is no good as a feeder. I mix granulated sugar, honey, and water with a little tartaric acid, heating it by steam, and making a fairly thick syrup, then fill the gallon cans. Be sure to keep the syrup free from dirt. This is done by straining. Load the filled cans into the wagon and draw to the house-apiary, taking enough to do all the feeding, for you know we can put on *two* gallons at a time, one on each shelf-board if necessary. This would make 22 pounds—enough for any colony. Have some little pieces of wire cloth ⅝ inch square. Take out the little stopper from the grooves. Crowd in one of the wire cloth pieces so the bees cannot get out. Invert the syrup can by holding a strip of postal card on the opening as you put it into the cup, then draw the strip of card away. (See cut No. 4.) After a little practice this can be done without spilling a drop, and the bees will do the rest. I much prefer to do the feeding up quick in the fall as there is no waste. Again I say, strain the syrup so the little wire screens will not get clogged, and then the bees could not get the syrup. In conclusion, while I do not like the job of feeding, yet I have noticed when I feed quite liberally in the fall I get a large crop of honey from that lot of bees next season. Add to liberal feeding, young queens, and our chances are the best for a successful apiarian run.

STILL FURTHER ADVANTAGES OF A HOUSE-APIARY.

Then, too, with the house apiary, there is practically no robbing. This is a great relief, especially in the spring when some colonies may be weak. It is surprising how quickly

a small colony can be built up by giving a pint of thin syrup each week. This springing of bees I originally expected to be one of the hard problems, but I find the even temperature of the house-apiary just the thing to hustle the bees along in the early season.

WINTERING BEES IN A CELLAR.

I like best putting bees in the cellar without any bottom-boards, stacking them up on a table 16 inches high, having a loose board top that can be arranged so there will be an opening one inch wide for ventilation. I have experimented considerably as to the size of this opening, until I am forced to believe one inch for the bottom tier a great plenty. This space can be increased, the higher the location of the stock, if one so desires, but it is not at all necessary. The beauty of this opening over an entrance is that it cannot get clogged, as everything falls down.

Our bees, once in a cellar such as I have described, can be left alone until it is time to put them out again.

This completes the round, I have come back to the place of starting.

The most I can say for the management here given is that it is successful, and accomplishes the result sought after.

Now, brother bee-keepers, don't think the house-apiary a thing of the past, for I honestly believe it offers the most practicable equipment for an out-yard. Think of the security, the protection, the convenience, the amount of time saved, and the personal gratification of working in a house-apiary.

A house-apiary like my Wilcox yard costs $250 to build, and another $250 to equip, making $500. This will accommodate 78 colonies of bees. You say, "too expensive." Let's see. We buy a farm and pay $6,000, which will, perhaps, give us an annual net income of $500, but that is too high. Take $1,000 invested properly in bees, and it will yield $500. Then why be afraid to invest a little money in bees? I believe the greatest drawback in bee-keeping today is that so many people who keep bees expect them to work for nothing and board themselves. The practical man has to make investments before he can expect to realize. As for me, I expect to be a bee-keeper all my life, and want my equipment as complete as possible, so that the work, though arduous at times, will be enjoyed in the main.

LOWVILLE, N. Y., Nov, 15, 1904.

Some Small, Cheap, Successful House-Apiaries.

BY A. A. LUDINGTON.

YEARS ago I began making hives that were formed of closed-end frames hanging on two brackets, each bracket being supported by a wire loop slipped over a nail in a stake driven into the ground. The frame-stuff is all half an inch thick, and 1⅜ inches wide, except for the two outside frames, which are 1⅞ inches wide. The front, back and bottom of the hive are each simply a plain board, the latter being hinged at the back edg so that it can be let down. There was little attempt at handling the combs of

the brood-nest. So long as all went well, the combs were undisturbed; in fact, the frames were numbered on the ends, that each might go back in its own place. The frames were eight in number, and of good size—about 10 inches deep and 22 inches long. Openings 5-16 wide, and 16 inches long are cut out of the edges of the top bars, thus giving the bees access to the supers. As the top bars form a complete floor, except the openings just mentioned, there is no difficulty from brace-combs. A small iron rod, at each end of the hive, with a wooden nut, holds the frames together so firmly that the hive may be turned over and over, or upside down with perfect safety. In winter the hives and their contents were carried into the cellar.



General View of Ludington's House-Apiaries.

(Honey-house in the center—Shop in background.)

WHAT PROMPTED THE BUILDING OF A HOUSE-APIARY.

This hive and plan of management worked to my entire satisfaction, but I finally noticed that the water soaked in between the frames, causing them to decay, and in my efforts to protect the hives from the weather, I struck upon the idea of using a cheap house-apiary in which I could hang the hives upon the wall the same as they had been hung upon stakes.

HOW TO MAKE A CHEAP HOUSE-APIARY.

As an experiment I made a cheap house, 8 x 14 feet in size, by 7½ feet in heighth. The foundation is of stone, the floor cement, the plates and sills of 4 x 4 scantling, and the sides boarded up and down with cheap, inch lumber. There are two rows of hives on each side and one end, the door occupying the north end. The house will accommodate 24 colonies. I have put on a shingle roof but would prefer corrugated iron, as it is cheap and will not burn. Seven hundred feet of lumber will build the whole thing, and I think the cost will fall inside of $25.00.

HOUSE-APIARY SATISFACTORY.

This house-apiary worked so satisfactorily that I soon built two more, and I am this year building three more, making six in all, whereby 144 colonies will be accommodated. The advantages of the house-apiary are that it allows of the use of cheap and thin lumber for hives and supers, and does

away with the necessity for painting. The bees and the bee-keeper, as well as tools and hives, are sheltered from the sun and storms, while the house can be locked against thieves. Work can be carried on, even in rainy weather, while the trouble from robbers is practically nothing.

SUPER FRAMES SUPPORTED ON NAILS.

I produce extracted honey, principally. The frames in the supers are about a foot square, and extend crosswise of the hives. They are placed far enough apart so that the bees draw out the combs quite thick, and when I am uncapping, I pare them down to about 1¼ inches, leaving them a little thicker in the middle. When I first began using these frames I let the ends of the top-bars rest in the rabbets of the supers, but I now support them with headless wire nails driven into the ends of the top-bars, and find them much better to handle. (A nail factory was induced to make a lot of 115 pounds of nails without heads for Mr. Ludington's use. They would not bother to make less than that amount, and it is not likely that Mr. Ludington will need to buy any more in years—perhaps he would sell some if anybody wished to buy—ED. REVIEW.)

FORETELLING SWARMING WITHOUT TAKING OUT THE COMBS.

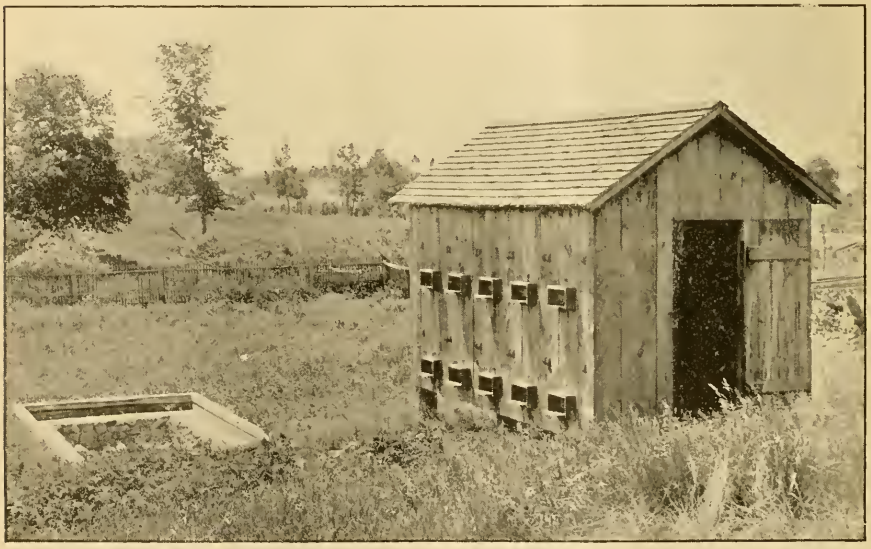
All of my queens are clipped, and swarms are hived by allowing them to return to their old stands, although I practice shook-swarming to considerable extent. By the way, that hinged bottom-board that can be dropped down in a moment is a very valuable feature of my system. The brood-frames are always supplied with full sheets of foundation, hence the combs are smooth and straight, with few op-



The Ludington Hives.

These hives were taken out of doors and placed against the side of the honey-house that there might be a good light for photographing them. At the left are two supers with two combs removed. At the right is a brood-nest with one comb removed, and the bottom board dropped.

portunities for queen cell building; as a result, nearly all of the queen cells are built along the lower edges of the combs. As my bottom-bars are narrow, only about ⅜ inch, it is an easy matter to see the cells from looking at the bottom of the combs, and this view may be secured instantly by simply dropping the bottom-board. The bees can easily be driven up among the combs by the use of smoke, when, by using a hand mirror, if necessary, a view can be secured that extends quite a distance up between the combs. If the light is insufficient, some one can stand out of doors with another mirror and throw a flood of sunshine under the hive that is being examined. Such an examination will show if there is sealed brood in the combs, and we can in this way determine if a young queen has begun laying. These things may be learned without any lifting of supers, or tearing to pieces of the brood-nest. As a rule, the bees are carried into a cellar for wintering, but I have many times wintered some of them in the houses. In this case, the lower entrance is closed in September, that the bees may become accustomed to the upper entrance, which is just at the top of the frames. The reason for using an upper entrance in a house-apiary is that there is always a strong draft in at the entrance and up through the hives; and, by having the entrance at the *top* of the hives, this draft up through the hive is avoided.



A Nearby View of a House-Apiary.

At the left may be seen the foundation for the building of another house-apiary.

I use a chaff cushion over each hive, or to be more exact, a shallow box filled with chaff, the lower side being covered with wire cloth, having a piece of cotton cloth above the screen. There is a cover over the top of the box, nailed on, that there may be no spilling of chaff, but there are numerous small holes in the cover to allow the moisture to pass off.

VERONA MILLS, Mich., June 11, 1904.

Editorial

HOFFMAN FRAMES I use to start the fire with, and, sometimes, when I am using these frames I am hot enough without any fire—I found the foregoing penciled on the back of a letter. I don't give it as an argument; simply that the pun may be enjoyed.

A CONFECTIONER in Colorado, so writes J. A. Green in Gleanings, is using comb honey as an ingredient in the manufacture of a high grade candy. The comb makes the candy "stand up" better. It is possible that here is a market that might be cultivated with profit.

THE SMALL NUCLEI, with only a handful of bees, have been given quite a thorough trial this year. The verdict seems to be that they work perfectly during a honey flow, but many report failure after the honey flow, during the cool weather of the fall. Liberal out-door feeding has, however, made a success of these little nuclei even as late as the end of September.

RECKLESS ASSERTIONS have been made at several conventions regarding the change that takes place in sugar or nectar when gathered or handled by the bees and stored in the combs as honey. There seems to be a sort of resentment that any sort of change is effected by the bees, an unwillingness to accept decisions of chemists and scientists on this subject, an inclination to make rash assertions in opposition to the positive knowledge of such men as Prof. Cook, Mr. Thos. W. Cowan, Prof. W. H. Wiley and Dr. J. H. Kellogg. An assertion regarding something of which we have no actual knowledge, has no weight and carries no proof, and it ill becomes a layman to place his bare assertions in opposition to the positive knowledge of the scientist.

CHAS. STEWART, Sammonsville, N. Y., writes as follows: "Your call for articles on the management of out-apiaries is all right, and ought to bring out something valuable. If I can get a single idea in connection with the system of locating out-yards along trolley lines, it will pay for the Review many times over.

DOUBLE COVERS, a sort of cover above a cover, the upper cover acting as a shade board, have been made and boomed quite a little of late, but J. A. Green, in Gleanings, says such covers become pitifully ramshackle affairs after a few years use in Colorado. Mr. Green prefers his shade-boards separate from the covers.

THE APPOINTMENT, as "Apicultural Clerk" in the Bureau of Entomology at Washington, of Miss Jessie E. Marks, of New York, daughter of the Chairman of the Board of Directors of the National Bee-Keepers' Association, is noted with interest.

Miss Marks has passed a creditable Civil Service Examination, held last summer, having received the highest general average in the rating, both in technical questions in apiculture, as well as on the total summing up. She has acted as her father's secretary for several years, conducting the rather extended correspondence which his duties as Chairman of the Board have required of him.

A NEW SYSTEM of management will be described in an early issue of the

Review. It is one that promises to be superior to "shook-swarming" in the following respects: No shaking; no handling of the brood; no possibility of the queen being in the wrong hive; no danger of after-swarming; no possibility of absconding; no increase unless desired; no hunting for and destroying of queen cells, yet the whole force of bees is kept together the whole season, and the colony may be requeened with a cell built under the swarming impulse if so desired. Too good to be true? Well, it has proved a success with one of Ontario's most successful bee-keepers, and he has described it in an article for the Review.

THE GENERAL MANAGER that we now have for the National Association is doing more good for the cause than was ever done by any other Manager. I think all will agree to this, and that no one's feelings will be hurt by the assertion. Twice at the St. Louis convention, the matter of his small pay was brought up, and a vote was taken instructing the Directors to find some way of increasing his salary. It is true that the amount of work that he does, if performed for some firm, or corporation, would secure a salary of several hundreds of dollars, while he receives only about $150. His labor is largely a labor of love. When the Board, some three years ago, reduced the Manager's salary from 20 per cent. of the gross receipts to 15 per cent., not nearly so much work was being done by the Manager, and nearly all of the members were paying $1.00 each. Now nearly all the members come in on the half dollar rate. The membership has doubled, while the gross proceeds have not greatly increased. This means a lot of work for the Manager, with very little more pay. In my opinion, the Directors cannot do less than pay their Manager the full 20 per cent. allowed by the constitution. I have in mind the making of a motion to that effect, letting the increase begin with January 1st, 1905. If there are any objections let me hear them.

KEEPING BEES IN LARGE NUMBERS.

When urging the keeping of more bees, bee-keepers have said to me: "That is all right, but tell us how to do it. How shall we secure the desired help, and how shall the work be done?" An important feature of the Review for the coming year will be the giving of that very information. In response to my request for articles on this subject, I now have on hand articles from a dozen veterans who, in the aggregate, own more than 10,000 colonies! No one of them owns less than 400 colonies, and one of them has 1,700 colonies. These men will tell how they have been successful in keeping large numbers of bees. The first article will appear in the January Review.

HOUSE-APIARIES PECULIARLY ADAPTED TO OUT-YARDS.

This month's Review brings out clearly some of the advantages of house-apiaries for use at out-yards. With the houses made portable, *a la* Townsend, it seems as if this system would be peculiarly adapted to the management of out-yards. One most important point, especially where several apiaries are managed by visiting them at regular intervals, is that the bee-keeper is independent of the weather. That is, the actual work of the apiary be performed even if it does rain. This eliminates one of the uncertainties of managing several apiaries on the "shook-swarming" plan in a country where it is likely to rain for several days in succession. Of course, there might be some travelling to be done in the rain, but by the use of water proof clothing and blankets, this can be endured rather than to allow the bees to get the start of the bee-keeper.

FORETELLING SWARMING WITHOUT OPENING THE HIVE.

Mr. Ludington, as described in his article in this issue, certainly has an easy and novel method of foretelling swarming without opening the hive. That this method is practical I well know from my experience with the Heddon hive, in which the cells are almost universally built between the two sets of combs. Mr. F. J. Miller, of London, Ontario, once told me that he had for years foretold swarming in this way with the Heddon hives. All that is necessary is to lift the upper section of the brood-nest to know if queen cells are being built. The lifting of the upper section is not so very objectionable until the supers are piled on top of it, when the lifting of them is a decided drawback. Mr. Miller has given much thought to devising some plan whereby the supers may be lifted quickly and easily, but has not yet succeeded to his satisfaction.

AUTOMOBILES, so it seems, may yet become as common as bicycles, perhaps more so, and the almost insane hatred of them that crops out in some localities is to be deplored. It is almost in keeping with the maledictions pronounced upon steam cars when they were first proposed—they would frighten teams. They will always frighten horses that are not accustomed to them. So will anything else that the horse is not accustomed to. There is a story, and perhaps it is only a story, but it illustrates the point, and it is to the effect that a city horse, when taken out in the country, fairly trembled with fright when he saw a *cow*. How horses did shy at bicycles years ago. Now find a horse, if you can, that pays any attention to bicycles. Horses are imitative animals. Teach one generation not to fear the automobile, and the next generation will not fear them. Having said all this I must say that those who run automobiles on the public highway ought to use all possible care and precautions not to frighten horses. There is no doubt that a disregard for this upon the part of some has much to do with the prejudice against the automobile.

What has all this to do with bee-keeping? Just this, the establishment and management of out-apiaries calls for a conveyance of some kind, and when automobiles are cheaper and more simple in construction, they will be the ideal conveyance for the man with out-apiaries. They can go fast, will not tire, balk nor run away, and the bees will not sting them. Perhaps the power may be utilized to run the extractor.

"SUGAR HONEY" NOT INSIPID.

Deacon Hardscrabble comes up briskly, in the American Bee-Keeper, to the defense of his position in opposition to using sugar as a stimulative feed in spring. He makes one bad break, however, and that is where he says: "Perhaps the sugarees can tell weuns how it happens that honey from their yards is often so flat and insipid." If the insinuation is that some of the sugar is stored in the surplus, thus giving the surplus an insipid taste, I can only say that the Deacon must be drawing upon an imagination already sadly overtaxed. If there is any honey in this world that is smooth, rich and oily, the very opposite of insipid, it is that made by feeding sugar to bees. If sugar is fed in the spring for the purpose of keeping up breeding, and, by hook or crook, some of the sugar is stored in the surplus, it will not be to the detriment of the latter. I am not advocating the feeding of sugar for the sake of having it stored in the supers, but, if the subject is to be discussed, let the truth be told.

Another weak spot in the Deacon's argument is found in the following: "Perhaps they (the sugarees) will elucidate the because why the onexpected caller so often finds feeders full of syrup 'accidentally' left on during the harvest."

I know some bee-keepers are sadly lacking in business ability, but I have yet to meet one so far "off" as to keep bees at home by feeding them sugar at five cents a pound, when they might otherwise go out in the fields and gather honey for nothing.

"FEEDING BACK" A DISTINCT BRANCH OF BEE-KEEPING.

At the St. Louis convention the matter of the profit in feeding bees sugar that it might be stored in the sections was quite thoroughly discussed. The position was taken by some that it was folly for people to say that the bees were fed sugar that they might make it into honey, that there was no profit in it. Dr. Miller asked: "If I feed sugar at five cents a pound, how much must I sell the product for to get my money back?" No one could tell him, and, if there could have several persons answered him, there would have been as many different answers as there were persons. It was finally voted that Louis Scholl, of the Texas Experiment Apiary, should make some experiments and report.

Let me say that the feeding of sugar or honey, that it be stored in the sections, is as distinct a branch of bee-keeping as that of commercial queen rearing. Mr. Doolittle once made some experiments in feeding back honey that it might be stored in sections, and reported a decided loss. I have fed thousands of pounds in which I secured three pounds of comb honey from the feeding of four pounds of extracted honey; and there you are. It depends upon the weather (the temperature), the strain of bees, the strength of the colonies, the size of the hive, the consistency and temperature of the feed, and a whole lot of details too numerous to mention. An experiment in this line will prove little, or nothing, as almost any results *can* be secured. Although I have made a decided success of "feeding back," I am not inclined to advise it for the general bee-keeper.

SUGAR FOR WINTER-STORES.

In the last issue of the Review Mr. Townsend re-affirms his good opinion of sugar as winter stores for bees. Mr. A. C. Miller thinks it was not the sugar so much as the fact that the feeding allowed the bees to place the food where they would find it most convenient for winter use. Dr. Miller, in Gleanings, quotes from a foreign bee journal the views and experience of Herr Reidenback regarding the use of sugar, to the effect that sugar is so lacking in nitrogenous matter that bees having nothing else to live on during the winter are likely to come out in the spring with their vitality sadly impaired. Mention is made of two populous colonies wintered entirely on sugar. They passed the winter fairly well, but "petered out" in the spring. In opposition to this let me say that years ago, when the "pollen theory" was at its height, I several times wintered colonies successfully on sugar stores alone. Not only did they winter well, but built up well in the spring. In doing this I took pains to select combs in which there was not one cell of pollen. The bees were shaken upon the combs, after brood rearing and honey gathering were past, and then fed sugar syrup until the combs were full and sealed over. Of course I know that bees must have some nitrogenous food in order to repair waste tissue, but there is very little waste of tissue during the semi-hibernation of winter, and as soon as

they are able to fly in spring, there is pollen to gather.

One great difficult with successful wintering of bees here in the North, seems to be the *excess* of nitrogenous food in the honey. It overloads the intestines and brings on dysentery. The use of sugar has so often proved almost a specific for this difficulty, that it seems as though it might almost be accepted as a fact that the feeding of sugar in the fall will prevent dysentery. Unless the stores are honey dew, or something of that character, I doubt the advisability of removing any natural stores, but, where there are wintering troubles, I most earnestly urge the trial of feeding each colony ten pounds of sugar after the close of the breeding season. This will be stored where it will be most likely to be used during the period of confinement, while the bees will not be left wholly without nitrogeneous food.

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4%

Discount on all orders sent in during December. By sending your order now you will save money and secure prompt shipment. Our Hives, Sections, etc., are of perfect workmanship. Send for catalogue —free for the ordering.

PAGE & LYON M'F'G CO.,
New London, Wis.

10-04-tf

Comb and Extracted

Honey Wanted.

State kind and quality, how put up, and lowest price.

CHARLES KOEPPEN,
Fredericksburg, Va.

6-04-9t.

Bee=Keepers Look Here!

Do you wish to buy bees or queens the coming season, or do you want an apiary already located in South Texas? If so, we can supply you. We have 4,000 colonies of bees to sell the coming season, and will sell them in any way it best suits you. We will sell here, location and all, or will ship them to you in any quantity you may wish. We mean to please you in the way of bees and queens, and a trial is all we shall ask to convince you

We make a specialty of bees in carload lots, also 1-, 2- and 3-frame nuclei and full colonies ready to go at all times. Prices cheap, quoted on application. We produce queens in a wholesale way and are never undersold with the same quality of queens

Untested queens from now until February 1st. $1.00 each, or $9 00 per dozen. Tested $1.50 each, or $12.00 per dozen.

We breed 6 different races in their purity, from 6 to 30 miles apart.

Our new 1905 catalogue will be ready to mail Dec. 1st. which will describe these different races of bees and their management write for it. We have a large stock of honey cans for sale at all times, and will buy your honey in season. Highest market price paid for bees wax at all times; wax worked into foundation on easy terms. Address,

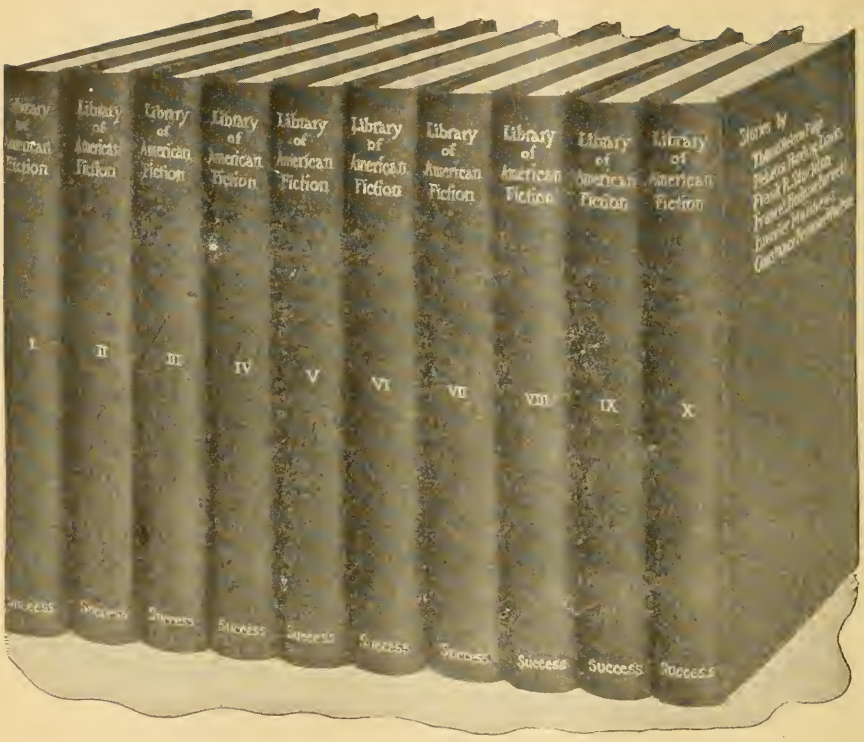
THE BEE & HONEY CO.
Will Atchley, Prop.
Beeville, Bee Co., Texas.

The Wood Bee Hive and Box Co.,

Lansing, - Michigan

gives six per cent. discount until Jan. 1, on the best Dovetailed Hive made. Circular ready to mail—you need it. 200 second-hand hives for sale cheap.

12-04-tf



Ten Volumes of Fiction.

To occasionally unbend and read a good story actually does us good, and it is with pleasure that I am able to make an offer of excellent fiction at an unprecedentedly low price. The Success Co. (publisher of the Success Magazine) has gathered together nearly sixty stories that are veritable gems of literature. Each story is complete in itself—not fragmentary, as in some so-called "libraries."

There is not room to mention all of the authors, over fifty in number, but here are a few of the names: Bayard Taylor, Frank R. Stockton, Edward Bellamy, C. A. Stephens, N. P. Willis, Rebecca Harding Davis, Frances Hodgson Burnett, Octave Thanet, and many others in this same high class.

The ten volumes contain nearly 2,000 pages, and are strongly and richly bound in silver-gray, watered cloth having the appearance of fine silk.

Now as to the offer: I will send that splendid, helpful, monthly magazine, "Success," and the Bee-Keepers' Review one year, and these ten volumes of fiction, for only **$3.75.** At this price, the books costs only 20c apiece.

This set of books may also be secured by adding $2.00 to any of the club-offers made on page 387.

W. Z. HUTCHINSON, Flint, Michigan.

This is Good Reading.

YELLOWZONES.

I am going to do something I have never done before, and may never do again, and that is to recommend, through the Review, a medicine. Its name is "yellowzones," and it is manufactured by W. B. House, of DeTour, Michigan. The doctor is "one of our folks," so to speak. He is interested in bees, a subscriber to the Review, and is, I believe, the one who wrote the glossary in Root's A B C of Bee Culture, and made the first two revisions of that valuable book.

Yellowzones are not a secret preparation. The doctor tells exactly of what they are composed, and if you wish to consult with your own physican before using them, you can do so. A box received by us, a month or two ago, came, as good fortune would have it, on the very day Mrs. Hntchinson was down with one of her severe headaches. For years she had been afflicted in this way, and we had never found anything that would stop them—once the attack commenced it had to run its course. Within ten minutes after we began giving yellowzones the pain eased off and she went to sleep,

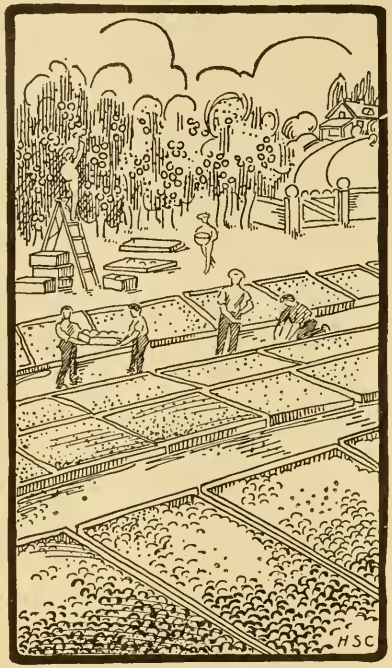
A week or two later I was awakened by neuralgia of the stomach. I lay quiet, hoping it would go away, but it gradually became more severe. Finally I slipped out of bed and took a yellowzone. The pain ceased *instantly*, and I dropped off to sleep as though nothing had happened. Since then I am satisfied that by the use of yellowzones I warded off an attack of La Grippe. I am not very much in favor of "doping," it is better to so live that there will be no need for medicine, but with the environments in which some of us live, it is well nigh impossible to entirely avoid the use of medicines; and when their use does become necessary, we wish those remedies which will "do the business." Yellowzones are "HOT SHOT" to pain and fever. If you wish to know more about them, write to Dr. House. Let me close by saying that Dr. House knows nothing of this notice that I am giving his medicine—he will probably be the most surprised of anyone who reads it.—*Editorial by W. Z. Hutchinson, B. K. R., March, 1901.*

A Final Thought Concerning It.

My friend, you have read the above honest, spontaneous testimonial. You and I are strangers, but most of you know Mr. Hutchinson and you know that no such testimony would ever have found place among his editorials except after the most deliberate thought, and with an honest desire to help his people. And you know, too, as well as I do, that MONEY could not have bought any such notice.

I believe, my friend, that both you and I are honest. I guarantee to return your money, **AND SEND ANOTHER BOX**, if not entirely satisfied. Now on such a guarantee, backed by such testimony, **YOU ARE NOT RISKING** the dollar that you will send right now for a box of yellowzones.

Price $1.00 per box; trial size, 25 cents.
W. B. HOUSE, M. D., De Tour, Mich.



San Joaquin Valley of California

offers opportunities unequaled for Intensive Farming. Ten irrigated acres there are equal to a quarter section in Illinois or Iowa.

Winterless climate;
Perpetual sunshine;
Rich soil;
Plenty of water.

The Greatest Valley in the World

Send for our literature

GENERAL PASSENGER OFFICE
The Atchison, Topeka & Santa Fe Ry. System
Railway Exchange, Chicago

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

ALLEY'S QUEEN AND DRONE TRAP 35c.

It automatically catches and cages drones and queens. It insures you against loss of bees through swarming, by catching the queen and preventing its leaving the hive. It will also prevent drones from entering the hive. They sell regularly at 50c. Our price, each 35c.

Doll's Bee Supply Manufacturing Co.

Power Bldg., Minneapolis, Minn.

Are you looking for

QUEENS?

If so I can furnish you queens of the following races by return mail:

Three- and five-banded Italians, Cyprians, Holy Lands, Carniolans and Albinos.

Untested, of either race, 75c each; Select, Untested, $1.00 each; six for $4.00; twelve for $8.00; tested, of either race, $2.00 each; six for $10.00; one dozen, $18.00; Breeders, $4.50 each. Safe arrival guaranteed.

B. H. STANLEY,
7-04-tf Beeville, Texas.

Texas Queens

From the ***Cotton Belt Apiaries*** are as good as the best and as cheap as the cheapest, and you can get them by return mail at the following prices: Untested, 50 cts.; tested, 75 cts.; breeders $3.00. We make one- two- and three-frame nuclei a specialty. Write for circular and price ist, which gives full information. 4-04-9t

E. A. RIBBLE

Box 83, Roxton, Lamar Co., Texas.

FOR SALE—Single and double walled hives; or will exchange for bees. F. T. HOOPES,
10-04-2t East Downingtown, Penn.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. One year's subscription to Bee Journal Free with orders of $5.00 or over. Send for free list.

W. D. SOPER,
R. D. 3 Jackson, Mich.

Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

Weiss Foundation

Is guaranteed to stand at the head for quality and workmanship, as it is made by the latest process of sheeting and purifying wax, and will defy competitors to its quality and purity. Send for a sample and catalog and be your own judge. Working wax a specialty. Friend Bee-Keeper, now is the time for you to send in your wax and have it worked into foundation. Highest prices paid for beeswax. Cash, 32c; trade, 33c. Impure wax not accepted. A full line of

Bee Supplies

AUGUST WEISS,

3-04-tf NEW LONDON, WIS.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin

Bee=Keepers Knew

—THAT—

DADANT'S FOUNDATION

WAS THE BEST.

They still know that it EXCELS.

Over 100,000 Pounds sold during the past season.

Its 27th Year. We guarantee satisfaction.

5 per cent. discount this month.

BEE SUPPLIES of all kinds.
BEESWAX wanted at all times.

We WORK WAX into FOUNDATION.

Send for free catalog, prices, etc.

DADANT & SONS,
Hamilton, Illinois.

L. C & A. G. WOODMAN, Grand Rapids
Agents for Michigan 3-04-10t

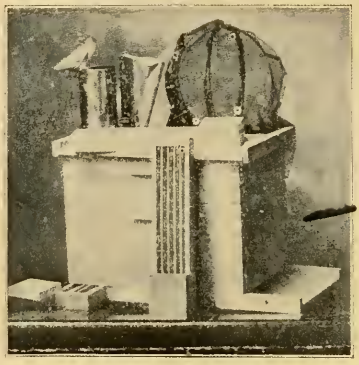
BIG DISCOUNTS on Bee Supplies, Berry Boxes and Crates now while we can serve you promptly. Address
R. H. SCHMIDT & CO., Sheboygan, Wis.

For ROOT'S GOODS in

MICHIGAN

M. H. HUNT & SON

Send for Catalog Bell Branch, Mich.



Dovetailed Hive Showing the Eastman Feeder in Position.

There is a growing demand for a feeder that can be used for simulative feeding in spring; one that can be left under the hive all summer, and one that can be used at all times without exciting robbing. The

EASTMAN FEEDER

fills the bill. We show one in place, one standing on end and one on cover.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

I CAN SELL GOODS CHEAPER than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small country town where labor is cheap; I have new, up-to-date labor-saving machinery run by water power—the cheapest power in the world. Not only will I sell goods cheaper, but ***I will pay the freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering.

THE RURAL BEE KEEPER

A monthly bee journal devoted to the interest of the Bee Keepers of America will teach you how to make money with Bees. May number tells about feeding bees. July is devoted to Queen Rearing; August to marketing honey. September to preparation for winter; October, the wintering problem. I aim to give big value for your money. Swarming, and how it is being controlled to the cash benefit of the Bee Keeper, is the subject upon which the June number treats. It will be the purpose of the Rural Bee Keeper to champion the cause of the small country bee keeper, to show him the way to make money out of bees, by first showing how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense, and later will show him how to cash his crop. Subscribe now. Begin with the first issue and get fifty dollars worth of good sound information in one year for fifty cents.

IN THE FRONT RANK

Beverly, N. J., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

I must congratulate you on the reading matter you have in the Rural Bee Keeper, it is all that could be desired, and just what I have been wanting. I take seven Bee papers and consider yours only equaled by Gleanings and the Review. Every number so far has been worth more than the subscription price to me. I do not see how you can fail if the present standard is kept up. Wishing you success, I remain,

Yours truly,
JAMES T. FENNELL.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

CINCINNATI—There is a marked improvement in the demand for comb honey since our last quotations. No material change in the extracted honey market. We continue to quote white clover extracted honey in barrels and cans, at 7 to 8½c; amber in barrels 5¾ to 6c; fancy white clover comb honey, at 14 to 15c; beeswax 28c.

THE FRED W. MUTH CO.
Oct. 28 51 Walnut St., Cincinnati, Ohio.

PHILADELPHIA—Honey has not been quite so active in the last ten days, but more demand is expected soon, as more honey is sold at the present time than at any season of the year. We quite: Fancy white 15 to 16c; No. 1, 13 to 14c; amber 11 to 12c; white extracted 7 to 8c; amber extracted 6 to 7c; beeswax sells quick 25 to 26c. We are producers of honey and do not handle on commission.

WM. A. SELSER,
Dec. 8, 1904. 10 Vine Street,
Philadelphia, Pa.

ALBANY, N. Y.—The demand for honey is improving some as the season advances We think present prices are good to take, for from information throughout the country, would seem to be a larger crop than last season, although the crop in this vtcinity is short. We have to depend on outside producing sections. We quote as follows: Fancy white 16c; No. 1 white 15 to 16c; fancy amber 13 to 14c; No: 1 amber 12 to 13c; fancy dark 12 to 13c; No. 1 dark11 to 12c; white extracted 7 to 7½c; amber extracted 6 to 6½c; dark extracted, beeswax 28 to 30c.

H. N. WRIGHT,
Wholesale Commission,
Sept. 1 Albany, N. Y.

KANSAS CITY—[illegible]
We quote as follows: Fancy white fancy amber $2.00 per case; white, extracted 6½c; beeswax 30c.

C. C. CLEMONS & CO.,
Nov. 29, 1904. Kansas City, Mo.

KANSAS CITY—Market is well supplied with honey, both comb and extracted. Considerable No. 2 comb is on hand, which demoralizes market. We quote as follows: Fancy white, 11 to 12c; No. 1 white 11c; fancy amber 10c; No. 1 amber 10c; white, extracted 6½c; amber 6c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
Nov. 30, 1904. 423 Walnut St., Kansas City, Mo.

CHICAGO—The market is well supplied with all kinds of honey, the demand is of a light nature. Fancy comb honey brings 14c, but quality as well as appearance is necessary, No. 1 sells at 12½c to 13c, off grades difficult to move at 1c to 3c less. Extracted choice white 7c to 7½c, amber 6c to 7c with off grades about 5½c; beeswax 30c per lb.

R. A. BURNETT & CO.,
Dec, 7, 1904. 199 So. Water St.

BUFFALO—Really fancy or No. 1 sells very well, but lower grades have to be pushed and cut to move them. Some lots of old are hardly salable at any price above 5 to 6c. We quote as follows: Fancy white 14 to 15c; No. 1 white 12 to 13c; fancy amber 10 to 11c; No. 1 amber 9 to 10c; fancy dark 9 to 10c; No. 1 dark 8 to 9c; beeswax 28 to 32c.

BATTERSON & CO.,
Nov. 29, 1904. Buffalo.

CINCINNATI—Comb honey is now coming in more freely, and prices, if anything, have moderated a little. The sales made and prices obtained were: No. 1 fancy water white 13 to 15c; No. 2, 12 to 14c; extracted is sold as follows: white clover in barrels 6½c; in cans 6½ to 8c; amber in barrels 5¼ to 5½c; in cans 6 to 6½; beeswax 27c.

C. H. W. WEBER,
Nov. 29, 1904. Cincinnati, Ohio.

NEW YORK—Comb honey is plentiful, demand is fair but not as good as last year. In large lots prices are shaded to effect sales. Extracted in good demand. Beeswax quiet. We quote as follows: Fancy white 14 to 15c; No. 1 white 13c; fancy amber 12c; No. 1 amber 11c, fancy dark 10 to 11; No. 1 dark 9 to 10c; white; extracted 6½c; amber 6c; dark 5½c; beeswax 28 to 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Nov. 29, 1904. New York.

CHICAGO—We are moving considerable stock in the honey line. In fact, this is the season ofthe year when trade takes hold of this commodity more liberally than at any other time. When large orders are involved, concessions in price will have to be made in order to effect sales. Colorado comb honey is cutting quite a figure on this market, a good many cars coming this way on a consignment basis, and selling at satisfactory prices. We quote as follows: Fancy white 13 to 14c; No- 1 white 12 to 13c; No. 2 white 11 to 12c· No. 1 amber 10c; white, extracted 7 to 7½c; amber 5 to 6½c; beeswax 29 to 31c.

S. T. FISH & CO.,
189 South Water St.
Nov. 29, 1904. Chicago, Ill.

WE WERE AWARDED A

Gold Medal

ON OUR BEE-KEEPER'S SUPPLIES

AT ST. LOUIS, 1905.

Also at Paris Exposition, 1899, and Trans-Mississippi Exposition at Omaha, 1900. Highest awards at World's Fair, Chicago, and Pan-American Exposition, Buffalo.

ROOT'S GOODS ARE PRIZE WINNERS AND ARE SOLD THE WORLD OVER.

Assiniboia
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Cape Colony
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England
France
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Natal
Norway
Palestine
Russia
Rhodesia
Scotland
Siam
Spain
Sweden
Syria
Tasmania
Trinidad
Vaal River Col.
Venezuela

In all States and Possessions of the United States and Provinces of Canada.

OUR CATALOG FOR 1905

is now on the press. If you wish a copy at once drop us a postal. It takes some time to print and mail to our list of 250,000 bee-keepers.

THE A. I. ROOT CO., Medina, Ohio

BRANCHES:
Chicago, Ill., 144 East Erie Street
Philadelphia, Pa., 10 Vine Street
New York City, N. Y., 44 Vasey Street
Syracuse, N. Y., 1635 W. Genesee Street
Mechanic Falls, Maine.

BRANCHES:
St. Paul, Minn., 1024 Mississippi Street.
San Antonio, Texas, 1322 So Flores. St.
Washington D.C., 1100 Maryland,av., S W
Havana, Cuba, Obrapia 14.
Kingston, Jamaica, 115 Water Lane

JANUARY, 1905.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 204

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Jan. 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(.50)	1.35
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1 85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion (new)	(1 75)	2.35
Cosmopolitan	(1 00)	1 90
Success	(1 00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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President.

C. P. DADANT, Hamilton, Ill.
Vice President

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Names of Bee-Keepers
TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates). and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	200
Ind....	744	Neb.....	345	Va.....	182
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Looking for the Dried Down Scales of Foul Brood.

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Devoted to the Interests of Honey Producers.

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W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, JAN. 15, 1905. NO. 1.

How to Detect the Dried Down Scales of Foul Brood.

BY N. E. FRANCE.

USE very little smoke in opening the suspected hive. Do the work just before sundown.

Open the hive without any jarring, leaving the bees in a natural condition.

As soon as the cover is slightly removed, place your nose near the opening just made over the suspected brood combs. If the peculiar, stale, glue-smell is noticed, go carefully to avoid danger from robber-bees, or from any honey leaking.

Take out carefully the oldest hatching brood in the hive, and notice if the brood is capped over regularly, and smooth, or if cappings are scattering on the comb, many sunken, and some with ragged holes in the cappings. This is more noticeable in old, black, brood combs.

Here is the way to look in the comb. Bring the brood-comb up from the hive to the level of your chin; then tip the top of the comb towards you, so your view strikes the lower *side*-walls (not the bottom) of the brood-cells about one-third distant from the front end of the cells. Then turn so that the rays of bright light will come over your shoulder and shine where your eye is looking. The white line in frontispiece shows both the angle of the sunshine and your vision. Gas or electric light will not take the place of good daylight,

What to look for? Dried down scales.

On the lower side-wall, a little back from front end of infected cell, will be seen the dead larva bee, nearly black, with a sharp pointed head, often turned up a little, the back portion of the bee flattened to a mere lining of the cell, often no thicker than the wax in the wall of the comb. The base or bottom of the cell, likely, looks clean; also all of the other side-walls of the cell. The last effort of the dying bee often is to throw out the tongue, sometimes touching the upper wall of its cell, at other times, falling short, will strike the body near the middle of the bee. In either case it will stick as fast as if

held with glue. This thread of a tongue will hold and cause the head of the dead bee to turn up some when the larva dries down to a very thin, black lining on the lower side-wall of the cell. Before this stage is reached the bee often becomes a light brown, dead matter, foul smelling, and ropy like fresh glue.

This picture used as a frontispiece lacks one thing: It ought to show the top of comb tipped towards me; but the line indicates the correct view.

PLATTEVILLE, Wis., Dec. 19, 1904.

Some Reasons why Specialty is Profitable and Desirable.

BY L. STACHELHAUSEN.

A FEW days ago I received the report of the St. Louis convention, and was astonished when I read the discussion following Mr. Hutchinson's paper, in which he recommended bee-keeping as a specialty, because the specialist in bee-keeping, as in all other lines of business, has a greater success. I am one of those who have made bee-keeping a life-business, and I know at least this much, that since I have abandoned all other kinds of business, *and not before*, have I made a little more money than I use in supporting myself and family.

SPECIALISM PRODUCES AT THE LEAST COST.

Specialization goes on in every line of business, because it brings more profit. Why should it be different in bee-keeping? The specialist is bound to produce honey with the least expenditure of labor; he is continually trying new ways, by which labor can be saved, and more money can be produced, not from a single colony, but by the labor he is spending in his business. We bee-keepers, as yet, spend too much time on useless, or non-paying, manipulations in our pursuit. The small, or amateur, bee-keepers are largely responsible that this "fussing" with bees is not recognized as a mistake, because, for them, time is not as valuable as for the specialist; but the latter will, by and by, kill out these prejudices, and all the indignation expressed at St. Louis will not hinder it.

HOW MANY COLONIES ARE THE MOST PROFITABLE IN ONE LOCATION?

If bee-keeping is to be conducted as the main or sole business, the first question which arises is, how many colonies can be profitably kept in one yard? While Mr. E. W. Alexander (Review, page 60, 1904) says that overstocking is a myth, and is getting a good average crop from an apiary of 700 colonies, others are of the opinion that not more than 100 or 150 colonies should be kept in one yard.

My experience is that, in many localities, during the main honey flow, where a single variety of honey-plant is present in large quantities, and all these plants are covered with unnumbered blossoms, 1,000 colonies may probably give the same average honey-crop as 100. During this flow, especially if the season is a good one, such a locality can hardly be overstocked. The difficulty arises during the *light* honey-flows in spring and fall. In the spring a few colonies may gather enough honey for stimulating the bees

to brood-rearing—possibly a little more—but a larger number of colonies may not find even enough honey for such stimulation. The consequence is, that such colonies are not in the best condition when the main honey-flow commences, and the average honey-crop will be smaller than with the same honey-flow and a smaller number of colonies. To a certain degree, this can be overcome by stimulative feeding and spreading of the brood in the spring, but these cost something, and take some time and labor, and we wish to produce the honey with as little work as possible. The same thing is true in the fall. A slow honey-flow in the fall stimulates breeding, we get more young bees for wintering, and they are in better condition for breeding up in the spring. The fall-flow secures a sufficient quantity of winter-food. It is now a simple question of dollars and cents whether it is more profitable to let the bees alone, and keep 100 colonies only in one place, and the same number in several other places, or to keep a larger number in one apiary and do spring and fall feeding, spreading of the brood, and several other kinds of "play work." I have found it more profitable to start out-apiaries, and I keep my bees now in five yards.

LOCATING OUT-APIARIES.

It is said that bees fly three or four miles to gather honey. I have observed that, under some circumstances, they may fly, probably, even more than five miles. This was when a hail-storm destroyed the mesquite bloom in my neighborhood. I could observe the direction in which the bees flew, and there was not a single mesquite blossom left inside of five miles; nevertheless, my bees gathered quite a reasonable crop of mesquite honey. But if something can be gathered near the apiary, they generally do not fly much over a mile; so the out-yards should be distanced one from the other at least two miles in an air line. Of course, I can't always find a desirable place at exactly the right distance; especially a desirable land owner, from whom we would not expect trouble of some kind. If I can make an agreement with a land owner to start an apiary, I select a well-sheltered and shaded spot in the pasture, and surround it with a good cattle-proof fence. Such a place should not be too near to a house or a field, but there ought to be a place nearby where the bees can get water without molesting farm animals. If these animals are watered in a trough, and the bees are taking water there too, the animals soon get used to the bees and do not care much about them after a while; but if the *owner* is afraid of the bees, we would, nevertheless, soon get into trouble with him. Generally, I get permission for keeping an apiary if I promise to furnish honey for the use of the farmer and his family; and they have never asked for more than five or ten gallons of extracted honey.

DIVISIBLE BROOD-CHAMBER HIVES.

The kind of hive to be used depends much upon the management. Mine is, in some respects, different from all others sold and recommended by manufacturers. It is a divisible brood-chamber hive; all chambers being alike and interchangeable. The spacing of the frames is done by notches cut in the rabbets. I have used this hive for 15 years; having tried all other hives and frames, and found none, as yet, which I would prefer to this arrangement. Hives, frames and other supplies I make during the winter; having for this purpose a circular saw run by a gasoline engine. If I count $3 wages per day for my work, these hives cost me about half as much as I could buy them for. I can say this outfit is a well paying investment.

The management is planned in such a way, that the most honey can be secured with as little labor as possible.

As I have had some out-apiaries for about 20 years, I have had occasion to learn how to reduce the labor to a minimum. Wintering, of course, is no problem in my locality. The hives are left in the apiary, just as they are after the honey-harvest, with all the extracting supers on top of the brood-chamber. This gives the bees plenty room to expand the brood-nest in all dirctions in the spring, and keeps down swarming.

LARGE HIVES PREVENT SWARMING.

During the first years of my bee-keeping experience here in Texas, I used 10-frame Langstroth hives (and I use some of them still as brood-chambers.) From these hives the bees commenced to swarm in March, every year. Many times I hived 20 or more swarms per day. Some united, and, having no time to separate them, such swarms are crowded into two or three stories. As soon as the main honey-flow commenced, in May, I had no more trouble with swarms. After I left the extracting supers on the hive in the fall, and during winter, my bees swarmed later and less. I found, by accident, that these large hives prevent swarming to a large degree. To avoid the trouble with natural swarms I used, at first, another way; I simply made my swarms artificially by what is now called shook-swarming, but at that time (24 years ago) I set the shook-swarm on a new place, and the hive with the brood-combs on the old place. This worked all right, when the swarms were made *early* in the season. Later, when I used these large hives they prevented swarming entirely in some years—those which were not very favorable for brood-rearing in the spring. In other years, when the colonies became very strong, and had many combs occupied with brood, the bees were shaken from the combs, and the well-known plan of making three out of two was used. This is still my management for increase and prevention of swarming. I have four out-apiaries, and nobody is there to watch for swarms; nevertheless, I do not think that more than two percent. of the colonies will swarm. These few swarms, of course, are lost.

MANAGEMENT DURING THE HONEY FLOW.

At present I work mostly for bulk-comb and extracted honey. In that way, my shallow supers contain three or four old, extracting combs, and, between them, six or seven frames with foundation, which will give the comb honey. When the honey-flow commences I load a number of so-prepared supers on a spring wagon, and drive to an out-yard; giving more supers where they are needed, placing them next to the brood-nest, and raising up the half-filled supers already on the hive. At that time every hive has two or three supers, and they are able to hold a large part of the honey-crop. In some of my out-yards I have a small building, in which I can do extracting and some other work, but, generally, we find it more convenient, when the honey crop commences, to take along about 40 or 50 supers, prepared to go on the hives, and take as many home, filled with honey, doing the extracting and cutting out of comb-honey at home, where we have a large honey-house and every thing more convenient. As soon as we arrive at the out-yard we unload the supers and storify them 10 or 12 high; then we take off the supers full of honey from the hives and give at once as many of the new supers to every hive as we have taken off full ones. In taking off supers we smoke down the bees somewhat, then lift the supers from the hives and shake the bees out in front of the hive. During a good honey-flow, when the bees are not inclined to rob, we set these supers in piles, crosswise, which causes the few bees

remaining in them to fly back to their respective hives. When the honey-flow is over, and the last extracting is to be done, we wheel the supers at once to the wagon, load them on, and cover them with a wagon-cloth. It does not take very long, and when our load is ready, the horses are quickly hitched on, and away it goes homewards. In the home-yard we sometimes use escape-boards, which remain on the hive during the night. We do not need many tools; a smoker and a chisel to loosen the supers from the hives, are all, and they are taken along on each trip.

One thing is important: If we give freshly extracted combs (which always contain more or less honey) to a colony, some excitement is always caused, and, if the honey flow is not very good, even robbing may be started by such combs. To avoid this I set the supers with extracted combs in piles of 10 or 12, about 100 yards from the apiary, and give to each pile only one small opening about large enough so that one or two bees can pass. In a few hours the bees will clean them out and they are ready for the out-yard again.

At present prices we have found the production of bulk honey more profitable than that of section, or extracted honey. Some years ago I produced section honey, too, and for this purpose I used either natural swarms as strong as possible, or I made such swarms artificially by shaking. Other colonies, which had not swarmed, I worked for extracted honey. For use in out-yards, such old colonies, in order to give a good honey crop in sections, require too much care and attention.

I never hired help in the apiaries. During extracting time my son-in-law, who is a farmer, generally helped, if he had time. In this way I have managed as many as 400 colonies; now he will go into partnership with me, and we intend to work 1,000 colonies.

LABOR VERSUS BEES.

The most important lesson I have learned by keeping bees in large numbers is, that it pays better to keep a few more colonies, and avoid all the extra work. Certainly, we *may* get a smaller average crop, or we may get no crop at all, from a few of the colonies; we may even *lose* some colonies entirely, that, by more work and attention might have been saved, but all this is more than balanced by *keeping some more colonies.* Mr. Doolittle, in American Bee Journal (page 247), is opposed to this. He says: "Suppose that 100 colonies produce an average yield of 50 pounds each of surplus honey, and, by so doing, secure all the nectar in a given field, year by year. This makes 500 pounds surplus honey, while each of the colonies uses up 100 pounds. which is 10,000 pounds." These 15,000 pounds are supposed to be all the honey this field will give. By the management-plan, 50 colonies would use only 5,000 pounds, thus leaving 10,000 pounds for the manager. Mr. Doolittle compares this question with a similar one in agriculture; and says that, in England, the same amount of produce is secured off one acre of land as many of our Americans get from three to four acres. It is the difference between intensive and extensive farming. In England the price of the land is very high, and labor comparatively cheap. Much capital is invested in buildings on the farm and in farm animals. There the intensive farming is paying best. Here the land and animals are cheaper. Little capital is invested in farms. Wages are high, and, sometimes, the necessary help is not to be had at all. Consequently, extensive farming pays better here, so much so, that America is nourishing Europe with wheat and meat. In the same degree as the price of the land is advancing, and wages becoming lower, are we adopting more intensive management of the farms.

The same is true with bee-keeping. The bee-range costs nothing at all. It is like the air we breath—the capital invested is small. Nearly the whole expenses are for labor. If, anywhere, extensive management is to be recommended, it is in this branch of agriculture.

If the field, as Mr. Doolittle supposes, would support 50 colonies only, then I would start another apiary of 50 colonies in another field. Mr. Doolittle supposes that his 50 colonies give him an average of 200 pounds each, or 10,000 pounds of honey. I will admit that, by the "let-alone" plan these 100 colonies, in two apiaries, will give a less average; we will say 150 pounds. The bee-keeper will thus get 15,000 pounds, or 50 per cent. more than by the management-plan. If we had to pay a high price for a certain bee-range, and the labor would be very cheap, then the so-called "management-plan" would probably be more profitable; but as this is not so, and we can't expect that it will be so in the near future, the extensive plan for bee-keeping is the better paying one.

There is still to consider another point: The advantages of stimulative feeding, spreading the brood, equalizing of colonies, and other manipulations, are very much overestimated. As I have said, stimulative feeding does not stimulate as much as a light and slow *natural* honey-flow. Spreading the brood does many times more damage than good. In a large hive with large combs and a sufficient supply of honey and pollen, an average colony develops to the most possible strength just before the main honey-flow *without any manipulation*. This, at least, is true in my locality, and I believe in many other localities. The equalization of colonies is more profitably done at the same time with artificial swarming, by giving to the weaker colonies some capped brood-combs from those which were shaken.

CONVERSE, Texas, Dec. 2, 1904.

Selling Extracted Honey by House to House Canvassing.

BY S. A. NIVER.

LOCALITY, is a word to conjure with in the bee business, whether producing or selling. Give us the name of the city, and we can "guess," if north of the Mason and Dixon line, or "reckon" if south of it, what kind of honey will sell best therein. If you name Los Angeles, we would try sage honey; Denver takes alfalfa; white clover is the great and only in Philadelphia; while in some parts of Pennsylvania they prefer buckwheat honey—strong, rich and black, thank you, believing white honey to be artificial honey; while Ole Olson is sure that bees' honey is always yellow, because he kept bees in Sweden and never saw anything else there. Generally speaking, people like best, the honey they are most accustomed to, and the *best honey* for the customer, is the honey preferred by that particular person, no matter what *your* preference may chance to be.

My first experience in canvassing to sell extracted honey to private families, was in Sayre, Penn. A railroad town with one pay day per month.

People get into the habit of running bills for the month, paying up the next day or two after pay day, and going broke from then until the pay car comes again. I had a wholesome fear of the credit business, so attempted to take orders for delivery just after pay day. This was not practicable, as it takes half as long to deliver as it does to take the orders, under ordinary conditions, but so many were absent from home, settling bills, shopping, etc., just after pay day, that it was really a bad date to attempt delivery. Credit for a monthly settlement at pay day, was the only way—"when you are in Rome do as the Romans do,"—so, after a trial, I *changed localities*. Orders 30 days old are stale, many have forgotten them entirely, and when you trust out honey it is impossible to avoid losses. My experience in Sayre resulted in a rule, "never work a town with only one pay day per month."

Sayre people bought candied buckwheat in tin pails, 11 pounds, or alfalfa honey 8 pounds for a dollar, and 100 hundred pounds of the buckwheat to 5 pounds of the alfalfa were about the amounts sold, respectively. My samples were carried in quart milk pails, with spoon inside, cover carefully closed, and honey liquefied. I also carried candied honey in a tin box in my overcoat pocket.

A GLIMPSE AT THE COST OF CANVASSING.

Calling at the kitchen door, I tell the lady that I am leaving samples of honey with all the neighbors, and if she will get a dish, I will be pleased to also leave a sample with her. If she says they never use honey because none of the family cares for it, don't argue the case, life is too short for that; get to the next house. If the dish is forthcoming, give a spoonful or two, which is as good or better than a quart, and while doing that, state plainly the price, style of package, when to be delivered, etc, I add that the package can be returned at my next call, which will be in one month as near as may be, and I pay cash for the package, whether they re-order or not. This little kink clinches many an an order.

Talk *business* straight. All attempts to "jolly" a lady by admiring the children, petting the cat, retailing neighborhood gossip, or up-to-date remarks about the weather, parties, or what not, is all nonsense. She feels insulted at your estimate of her ability to see through the little game.

The average housewife, in the wage earner's home (and I have no use for any other class), is usually a shrewd, careful buyer, and is well posted on prices and comparative values. She is on the lookout for bargains whereby she can furnish as good a table as possible, with the income available. My main argument is the comparative cheapness of extracted honey as a food, quoting Prof. Wiley and others, giving honey leaflets, etc., stating positively that all who are posted on the subject, concede honey to be healthful. If the order is given I carefully note name, address, time promised for delivery, in a nice looking order book (*style counts*, more than you would think), leaving nothing to the memory. If for any reason the lady withholds the order, but thinks she may order at a future time, note that down and call the next trip. I only call on customers (and those who were absent the first call) on my subsequent trips. What good can come by wasting time, and annoying people who don't use honey ?

HOW A CANVASSER MAY INTEREST AND IMPRESS PEOPLE.

The above is a general outline of my work for the first time over a route. Careful, painstaking work pays, taking plenty of time to explain everything, if your customer shows interest, or asks questions. I usually carry supply catalogues, bee zinc, bee veil-

ing, comb foundation, a Porter bee escape, honey leaflets, and anything else likely to be of interest, and of a size small enough to be carried in my pockets. This gives the impression that I know something about bee-keeping and can be relied upon to know whether honey is right or not; also that I am capable of giving them the best bargain possible. Square dealing, good goods, and liberal treatment of customers, change unfavorable impressions to confidence, and the rest is more a matter of hustle than anything else.

CAN THE BUSINESS BE BUILT UP, OR WILL PEOPLE TIRE OF HONEY?

Will people continue to buy honey, or will one trial end the deal? was the main question to be answered, when I commenced this mode of marketing. After several seasons' work, under various circumstances, I have have demonstrated, to my own satisfaction, at least, that it can be made to *grow*, and the consumption of honey increased to a greater extent by this method, or something similar, at least embodying the educational, "special pleading" features of it, than all the other agencies combined. Printers' ink used in the "Sunny Jim" style would create a sure thing impression that it was a "fake." Who urges people through the press to eat potatoes, or advocates cabbage as a health food? Interesting press articles that will help along by giving people exact knowledge and refuting fake items, would be of advantage surely; for instance, a write-up of the efforts and results in breeding long tongue bees would go the rounds if started rightly, and provoke thought, interest and thirst for more. One lady spoke of "red" clover honey, and that brought up this same story. She said her children had something told them in school, about bees, and they had become intensly interested in the subject since that; and my coming with the honey added to the demand for information. Where could she get *reliable* literature to study? I gave her directions to send for Prof. Benton's book, issued by the general government, then took an armful of "Reviews," "Bee Journals," "Gleanings," etc., to her that same evening.

As a rule, I can sell more honey, per day, in old territory than new, and I believe that there is a growing demand for extracted honey as a wholesome and economical food.

SOMETHING ABOUT PACKAGES.

As to the best package, tin, paper, glass, or no package at all, I have experimented all along this line. Peddling, that is, taking honey along and delivering as you go, has its advantages, and objections. You only go over the ground once, but it is *slow*, and annoying in some ways. On paper it seems feasible to ask them to produce a dish of some kind, and weigh out for them just as much or little as they wish, charging a sliding scale of prices according to quality. One pound 20 cents, two pounds 30 cents, four pounds 50 cents, and ten pounds for a dollar, would result in selling the great majority in *one pound lots*. It takes as long to sell, weigh out, and get paid, for one pound as for ten; and while the customer is hunting up and rinsing the package, then getting change (you know no woman can afford the luxury of a *pocket*, so her purse is concealed in any old place about the house, she forgets where, causing exasperating delays), it results in small sales for the day. Another objection is the almost universal habit of people being a week or two behind with their payments, and must have time to allow for an extra like a package of honey, especially if it is any amount exceeding a quarter.

You see people get reckless and spend their money in times of great prosperity like these; at least, it seems

so "in this locality." My delivery days are set ahead a week, usually.

In Sayre I settled upon asking them to furnish the package for me to take home and fill. Every house had a surplus of butter pails that would contain eleven pounds of honey, just right for a dollar's worth of extracted buckwheat. I string them on a stout cord, and the bigger bunch and more noise they make, the easier it was to take orders. How could a lady refuse to get into the swim, when she could see that everybody must be buying, or I would have no such lot of pails. It was good policy to start out with a few from home, to set the ball rolling. (*Note.*—W. Z. *This* yarn is to give Dr. Miller and uncle A. I., a chance to *kick*. Facts are, that I *never started with a pail.*) Niagara Falls people could not be worked that way. They had no butter pails. There I used new, six-pound, tin pails. Here in Chicago I have settled down to the despised Mason jar, "the cheapest and most worthless of all," to quote an expert at the Chicago and Northwestern convention. Yes, they are *cheap*, costing only ¾ of a cent per pound of honey, while the flint glass, perfect sealing bottle, with a two-color label and red ribbon, costs 4 cents per pound for the honey, and goes into the garbage can when empty, while the Mason jar is stored for future reference. Every woman knows just how large they are, and all about them, which saves lots of atmosphere for the canvasser, and they are worth a nickle when empty every time, "in this locality." A Mason jar can be easily opened to compare the contents with sample, a necessity in many cases here, as agents have educated people to expect poorer goods than the sample. The ladies believe it to be the *cleanest* package, in short it is *popular* now, and it takes a heap of hot air to change opinions that are so firmly established. The main objection to it is that annoying propensity to "leak over the top." Fruit, sealed hot, will be firmer held after cooling, but honey don't seem to act that way. It shrinks nearly an inch in cooling, and, as I like to have cans look full, I set them aside over night, finish filling in the morning, turn down a cool dry top on a cold dry rubber, and find the leak trouble done away with. I use *new* tops, and new rubbers, to obtain results.

THE DELIVERY OF GOODS.

In delivering there is a chance for variety. Horse and wagon is good of course, but costly in a big city, and you need a boy to watch while you are in the house, or you may miss goods—possibly the whole rig. If you cover a large territory, something similar is a necessity. In a thickly settled region, where people are stowed like sardines, a boy and a push cart are handiest and cheapest. That Cleveland agent who advocates street cars and a basket has hit upon a way which is all right, occasionally. A bicycle delivery wagon is rapid and practical, providing the *snow* isn't too deep. The *ideal* rig is the automobile—and its not far off either. It "will stand without hitching," can be locked easily, and, and, well never mind *now*.

SOMETHING ABOUT PRICES.

What price shall we ask for honey? How much profit must we have to get the best results? Some of the crack salesmen advocate a commission price of 25 cents a pound, claiming to be able to sell more at that figure then at 12½ cents. I am not built that way.

Some big producers retail at wholesale quotations in their home markets, saving big freights and commissions, increasing home consumption, and giving their neighbors the benefit. If your price is above the point where the housewife believes it to be economy to purchase, sales will be few and scattering. Too low a price, awakens

suspicions of adulteration, besides leaving too small a margin of profit to pay for time and labor in bottling and distributing. I prefer to sell 100 pounds at a profit of 5 cents per pound, to selling 50 pounds at a profit of 10 cents per pound, because, in the first instance, my customer tells her sisters, and her cousins, and her aunts, of the good bargain, and they want her to send me to them on my next trip, thereby increasing my sales. On the contrary, if they poke fun at her for paying more than she could have obtained comb honey for at her grocery, your sales "in that locality" have gone to the bow wows.

It is difficult to tell when a pig becomes a hog.

WHY HONEY SELLS SLOWLY IN STORES.

Last week I went into a small corner grocery to rest and eat an orange or two, as I did not feel very ambitious after my long siege with La Grippe. On the counter was displayed a nice case of comb honey. The bee-keeper who sent that honey to the city, had a right to be proud of his work, for each section was white and clean—no culls in the lot. Five sections had been sold, and I asked the clerk how long she had been selling that many. She said "over *four weeks.*" My order book showed 110 pounds sold in that immediate vicinity, that same morning, and at a greater price too. To quote the lamented Artemus Ward, "Why this thusness?" Had I killed that market for comb honey by filling it full of extracted?

In this connection we must consider the fact that the family with a goodly number of childen is naturally our best customer. The mother is too busy to attend to the marketing in person, so orders goods from the clerk who calls each morning, or she sends by one of the children, so she seldom sees comb honey at the stores, and when she does. passes it by with the idea that it is too expensive a luxury for them. The grocer probably agrees to that opinion, so doesn't mention it, or if he does, he knows but little about its value as food, therefore, is no good as an advocate. On the other hand, the honey expert as a canvasser, gives her a sample, the children get a taste, and tease for it. He points out the fact that children prefer honey and bread to butter and bread; that it has actually as much nutrition pound for pound as butter, and costs less then half the price, and that true economy and regard for health say "more honey and less butter and meat." A trial usually establishes a steady customer, and some of these customers consume an astonishing amount. One of that class has bought 96 pounds of me in four months, and is due for another order tomorrow. I have over 700 customers on my steady list.

CAN THE BUSINESS BE ENLARGED BY HIRING HELP?

The next point is the most interesting of all, at present writing. Can we hire help and enlarge the business? Of course, it is easy to hire extra helpers to bottle, deliver, etc., but a canvasser, intelligent enough to be of any use, soon learns the business, and can do better for himself. Women canvassers do well enough, but cannot endure the stair climbing. I have just gotten to this part of the problem, and it looks about as diffieult of solution, as anything in the business.

There is no patent on it, nor exclusive territory, but strictly a free for all race—for which blessing let us give thanks. Whether it can be developed beyond the average wages stage, more or less remunerative according to the industry of the canvasser, the weather, state of the honey market, local conditions and other circumstances directly having an influence, is more than yours truly can state at this stage of the game.

CHICAGO, Ill., March 25, 1904.

Specialty Versus Mixed Bee-Keeping.

BY F. STROHSCHEIN.

MR. HUTCHINSON, with your consent, I will try and entertain you if I can; but first I must say that you, Mr. Editor, have been amusing me. You tell us to "keep more bees," "keep more bees," drop everything else, but "keep more bees;" produce tons of honey, as does Mr. Gill, then you will be able to put money in the bank, as has been done by Mr. Coggshall. Systematize your work, you say, so as to be able to handle more bees; but the first thing to do is to look up a good location. Now, if we all go to looking up good locations, possibly some of us will have to land in Cuba, or some other tropical country; and the home-field will have its nectar wasted, for there is not enough of it to let us all establish many out-apiaries. But then, Mr. W. K. Morrison doesn't want us in the tropics. He tells us in Gleanings, we would better stay at home and raise alfalfa, sanfoin, raspberries, rape and other nectar yielding plants. I am of that opinion, too, but you, Mr. Hutchinson, say that general farming is very poorly adopted for combining with bee-keeping "that there are critical times in bee-keeping that will brook no delay, when three or four days' or a week's neglect may mean the loss of a crop, and these times come right in the height of the season —leaving the team and reaper idle in the back field, while the farmer goes to the house to hive bees, is neither pleasant nor profitable. Drawing in a field of hay while bees lie idle because the honey has not been extracted to give them storage-room, is another illustration of the conditions with which the farmer bee-keeper has to contend. The serious part of it is that the honey thus lost may be worth nearly or quite as much as the hay that is saved." Now, almost right in the same breath, you tell us that we should systematize our work so as not to find it necessary to visit an out-apiary more than two or three times a month, yet you think it necessary for the farmer to leave the reaper idle on account of his bees. Now, why not apply that system to the farmer's apiary, even if it is at home? Of course it can be done, *providing the farmer is fit for the work*. If he is not, neither will he be able to manage out-apiaries. Doesn't Mr. Coggshall, one of the largest out-apiary men, tell us he is a farmer, instead of thinking, as you do, that farming is poorly adapted to unite with bee-keeping?

HOW FARMING HELPS BEE-KEEPING.

Mr. Hutchinson, I think it is one of the best possible combinations. Is not agriculture the main stay of bee-keeping in many parts of the country? In New York, for instance, buckwheat furnishes tons of honey, while the large acreage of alfalfa in the West must not be forgotten, and it is the farmer who must first sow this alfalfa for the bees. Of course there are many natural, nectar-yielding plants, the most important of which are basswood, goldenrod, aster and others (that is for this part of the country). Now, if the farmer furnishes part of the pasture, why cannot he also keep some bees to gather the nectar, *always providing, of course, he is fit for bee-keeping*. It has been set down as a rule that any plant which furnishes only nectar, and nothing else, will not pay to sow on land where other crops will grow. This is quite true, but there is the alsike clover,

which is a better pasturage plant then red clover. It will not furnish as much hay per acre, but it should be sown in connection with the red clover, as it secures a better quantity of hay, and also avoids bare spots in the field, as, if one does not catch in certain places the other is most likely to take its place. Then again, it is of the most importance to have some tree or plant in bloom at the time when the bees will be gathering little else. Buckwheat, as is well known, will furnish the bees nectar when they would get little else. A plant which could be sown with small grains would be very desirable. Serradella, which is one of the nitrogen gatherers, is said to furnish excellent honey in Europe. It can be sown with small grains, will blossom during August, and then can be turned under for green manure. Then there is winter rape which should be sown during August. It two months it will furnish excellent pasture for cattle, and, the next spring it will blossom during the honey dearth between fruit bloom and clover, after which it should be turned under, about the first part of June, and the land planted to potatoes or sown with buckwheat, millet, or other quick growing crops. And don't forget to plant basswood, willows, and the like, along the roadside. They need not be planted for the bees alone, for they beautify our homes and increase their value. Especially, are the willows important. My records show that they commence to bloom about the middle of May, and continue till June, and the bees work on them all day long. Thus, you see, the farmer bee-keeper, has certain advantages over the out-apiary man; and it is my opinion that any one who can throw away the farming-prop, and manage, out-apiaries can also manage, successfully, bee-keeping with farming.

And that reminds me that the following conversation was once heard: A business man said to a farmer-bee-keeper, who had about 100 colonies, that "he could not manage them all anyway." Said the bee-keeper, "I manage them all myself, and do my farm-work besides." "Yes," said the business man, "but they build (work) just the way they want to." "They build (work) just the way *I* want them to," was the bee-keeper's reply. This business man had a colony in a hollow log, brought from the woods. I think he also had one or two in boxes. Probably he thought he knew all about the business. What would he say if we were to tell him that Mr. Gill, his wife and one helper, managed successfully over 1000 colonies, securing 75,000 pounds of comb honey? Maybe he would ask us "if that was the best yarn we could tell?"

And now, in conclusion, let me say, that after having thus improved the agricultural condition of our farms, and, at the same time, provided pasture for our bees, maybe we would then be able to keep as many as 800 colonies in one apiary, as has been done by Mr. Alexander, of New York. We could then keep more bees without going to the expense of establishing out-apiaries, and all done by the farmer bee-keeper.

METZ, Wisconsin, Nov. 14, 1904.

[It is seldom that I publish an article with greater pleasure than I experience giving in the foregoing. One reason is because its views are in opposition to my own—because the writer has done what I have so often urged my readers to do—write and let me know if they did not agree with me. Another thing that pleases me is the fairness of the arguments. In fact, it is the best argument that I have ever seen put up against my plea for specialty; and I may as well admit that, if a bee-keeper can manage an apiary by one visit a week, a farmer *could* also manage an apiary by working in it one day in a week, provided, as my friend

puts it, and he puts it well, provided the farmer is *fit for the work*. If a farmer is systematic, and understands both bee-keeping and farming, there is no question but what he *can* both farm and keep bees, but that does not change the fact that the busiest time with farming and with bee-keeping both come at the same time. There are several branches of agriculture that may be taken up in connection with bee-keeping to much better advantage than general farming. The raising of winter apples, or grapes, the keeping of a winter dairy, the raising of early chickens for broilers, etc., are illustrations. I still maintain, however, that a man gains nothing, from a money point of view, by engaging in several occupations. A man can do *more* of one thing to better advantage and greater profit, than he can do *less* of two things. If a man has a farm adapted to the growing of potatoes, he will make more money, and have less worry, by making a specialty of potatoes. He can have special tools for this business; such tools as the general farmer cannot afford. Now then, the potato-farmer, or any farmer, for that matter, instead of putting money into bees, might better take that money and so use it as to help him in his regular business. The potato-farmer better use the money in buying the best potato digger, or an improved sprayer for spraying his vines, or in slat-boxes in which to pick up and store his potatoes, so as to avoid handling them more than once. The farmer who is making a specialty of hay, better buy a hay tedder, or a hay loader, or rig up a horse-fork for unloading the hay, than to put money into bees. If these men have all the tools and appliances that it is possible to procure or use in their business, then they might better buy more land and extend their business, than to take up some other kind of business.

It is true that the bee-keeping, in many localities, is largely dependent upon agriculture, upon the crops that are grown, but there is no necessity that the bee-keeper should raise those crops *himself*. The crops that a man can raise, himself, on an ordinary farm, will have very little influence upon his honey crop. Flowers, or honey plants, must cover large areas in order to be of value as honey producers. To take advantage of cultivated crops, the bee-keeper must locate in a place where the natural conditions favor the cultivation of the desired crops; where they will be raised whether he is there or not.

It is true, as our friend remind us, that Mr. Coggshall does own and manage a good sized farm. I believe it was inherited, or something of that sort, and Mrs. Coggshall wished to keep it and live upon it, as she considered it a safe place upon which to bring up her boys, but Mr. Coggshall told me, when I visited him some two or three years ago, that, so far as money was concerned, he would have been better off if he had *given away* the farm years ago.—Ed. Review.]

Editorial

Wisconsin bee-keepers will hold their annual convention Feb. 1 and 2, in the Supervisor's room, court house, at Madison.

In Horizontal Wiring of brood frames, Mr. Dadant says that the upper wire ought to be quite near the top-bar—not more than an inch from

it. He thinks there is little if any need of wires in the lower half of the frame.

THE TOTAL MEMBERSHIP of the National Association has now reached 2134.

S. A. NIVER, the genial, the jovial, the jolly, the man with a vast and varied experience as a seller of honey, was married, December 26, to Mrs. Alfarata Hull Jahnke. That the happiest days of their past, may the saddest days of their future, is the sincere wish of the Review.

ADVERTISING can help a bee convention or Association, just as it can anything else. The managers of the Chicago and Northwestern convention sent out 2000 circular letters shortly before their meeting was to be held. As a result, 25 men sent in their membership fees by mail and the attendance was away ahead of what it has been in years.

A THERMOMETER is useful in the cellar for more than one reason. It not only shows whether there is a regularity of temperature, but if we find the bees quiet one day and noisy the next, we can't tell, without a thermometer, whether it is the result of a fall in the temperature or the reverse.

THE RECOGNITION of one bee-keeper by another is sometimes accomplished by a sort of intuition. At the Chicago convention, a group of us in the hotel office amused ourselves on the morning of the first day by trying to pick out the bee-keepers as they came in, even though they were strangers. After watching a man for a while, some one of us would say, 'I'll bet he's a bee-keeper.'' Then some one would go over and ask him, and not a mistake was made.

CALIFORNIA had only a very light crop of honey last season, and the prospects are not very bright for next year. I receive many letters from there telling how whole apiaries are being wiped out by starvation. The honey seasons in California remind me greatly of the little girl in the nursery rhyme: ''When they are good they are very, very good; and when they are bad they are horrid.''

AUG. WEISS, a well-known manufacturer of bee-supplies, especially comb foundation, who lived at New London, Wisconsin, died November 22nd, of consumption. Mr. Weiss was an excellent mechanic, and made a very superior grade of foundation, having a special process of purifying and sheeting the wax. I visited him last spring when he was living at Greenville. He was then confined to his room much of the time, but still hopeful for the best. If is certainly sad for the family to lose the husband and father right in the prime of life (he was only 42), and they will assuredly have the sympathy of all their friends.

A NATIONAL COMMITTEE is at work upon a revision of definitions and standards for farm products. Honey is one of the subjects for consideration, and this matter of a definition is really of more importance than it would seem at first thought. If it is defined as ''The nectar of flowers gathered by the bees, transformed, and stored in cells,'' it would throw out honey dew, and a bee-keeper who put honey dew on the market, even though it were palatable and wholesome, or honey

with a small percentage of honey dew, would lay himself liable to prosecution for adulterating his honey.

A DELIGHTFUL ENTERTAINMENT was furnished by E. R. Root at the meeting of the Chicago and Northwestern Bee-Keepers' Association. It was a series of stereopticon views, together with moving pictures showing the swarming and hiving of bees, as well as some of the manipulations of handling hives When the operator jerked back his hand and rubbed the back of it on his pants leg, there was a decidedly audible snicker from the audience. At the close of the entertainment, live bees, placed between two glass slides, were placed in the lantern. In catching the bees and putting them between the glass slides, some of the bees lost their sting to the sorrow of the operator. The sting remained attached to one bee (not being pulled entirely loose) and the way the other bees chased this one, and tried to remove the sting, brought down the house. The pictures of the bees on the screen were about two feet in length.

MICHIGAN STATE CONVENTION.

The Michigan State Bee-Keepers' Association will hold its annual convention Feb. 23rd and 24th, at the Eagle Hotel in Grand Rapids. The Michigan dairymen will hold their convention at the same time and place, and the bee-keepers can take advantage of the reduced rates given the dairymen. When buying your ticket ask for a certificate on account of the meeting of the State dairymen's meeting. The Secretary of the dairymen's association will sign this certificate, which will enable the holder to buy a return ticket at one-third fare. This is done with the knowledge and consent of the railroads. Several associations often meet in this way, and the Secretary of one association signs all of the certificates. The Eagle Hotel is located at 65 Market St., corner of Louis street, one block south of Monroe street. It will give a rate of $1.50 a day, and furnish a room free for holding the convention. Grand Rapids is located in a good honey producing district, easily accessible from the northern, southern and middle parts of the State, and a large crowd ought to be present. The editor of the American Bee Journal and of Gleanings have promised to come if it is possible.

BEE-KEEPERS' MEETINGS IN YORK STATE.

A series of bee-keepers' meetings has been arranged for in New York, to be held as follows: Canandaigua, Jan. 9 and 10; Romulus, Jan. 11, Auburn, 12; Cortland, 13; Syracuse, 15; Fulton, 16; Watertown, 17 and 18: Amsterdam, 19.

Through the Bureau of Farmers' Institutes, Mr. N. E. France, General Manager of ihe National Bee-Keepers' Association, has been engaged to address the meetings

The convention at Watertown, on the 18th, will be the meeting of the State Association, at which many of the progressive bee-keepers of New York and adjoining States are expected to be present.

TEACHING BEE-KEEPING IN THE SCHOOLS

If bee-keeping were taught in the public schools, or even a general outline of bee-keeping given, it would eventually do much to popularize honey, and to kill the manufactured comb honey stories. I am glad to do all that I can to help in that direction, hence I take pleasure in making room for the following from Mr. Bigelow of Connecticut:

To the Editor:—

For some time I have been endeavoring to advance the claims of honey bees as an educational—"Nature Study"—topic. It seems to me that honey bees

are more available, more interesting and more practical for the school room, and for teachers and pupils outside of the school room, than certain other branches of entomology that have been more talked about and studied by teachers and pupils.

I desire to obtain information of experience with bees by teachers who have kept bees, especially from the "Nature Study" standpoint. Also will young people under eighteen years of age who have personally cared for bees, please write me of their experience.

Any suggestions from veteran bee-keepers for interesting teachers and pupils in bees will be much appprecíated.

Please inform me where straw hives are in use in this country.

EDW. F. BIGELOW, Stamford, Conn., Lecturer at Teachers' Institute and "Nature and Science" editor of the St. Nicholas Magazine.

MAKE GLUCOSE SAIL UNDER ITS TRUE COLORS.

I have received from Harry Lathrop the following communication:—

Friend Hutchinson:—I would like to point out some work for the National Association to do. Occasionally an article appears in one or the other of the bee journals on the subject of sugars, honey, glucose and the chemical properties of each. These articles are among the more instructive that we have had. I have tried to write some along this line for the general press in order to call attention to the claims of honey as being superior to other sweets, especially glucose mixtures. I have called attention to the great work that has been accomplished by the dairy interests in this State in securing laws to control the manufacture of imitation butter. The dairy interests are strong and well organized. They have secured protection for their industry. The bee-keepers have a stronger case against the glucose factories but are not strong enough to protect ourselves. The information we have at present is not definite. I propose that the officers of the National make application to the authorities at Washington, for a special examination into the composition and quality of the various cheap table syrups that are being pushed to the front by powerful, organized capital. That when we get the information from this high authority, we publish it broad cast by every and all means, especially by having bee-keepers prepare short articles for their local newspapers. If commercial glucose contains traces of acid used in its manufacture, which is dangerous to the health of consumers, let us see that it gets what it deserves; a complete airing. It never was claimed that imitation butter was injurious to health, but they got after it, and now it has to *sail under its own colors.* This is important, don't turn it down.

It is my impression that high authorities have pronounced glucose a wholesome food, as has been done with oleomargerine, but the manufacturers desired, of course, to sell their product as *butter.* It was their intention to deceive, and it would have been from this source, deception, that they would have reaped their richest harvest, to the loss of the butter maker, had not the latter secured laws compelling the sale of oleomargerine for exactly what it is. We have laws now compelling the branding and labeling of glucose mixtures in such a manner as to show the true character of the mixture. If it is true that such mixtures are unwholesome, then it ought to be known and published, and their sale prohibited.

THE MAKING OF THE REVIEW.

As you sit down by the lamp light, and read the Review through in perhaps two hours, I wonder if you realize the amount of work that has been required to produce it. It may be of interest to describe that work. First comes the work of getting the materials, the correspondence, the extracts, and writing the editorials. No one not an editor can understand the eagerness, the solicitude, the thoroughness, with which the whole country is searched and scanned for desirable correspondence. Correspondence, such as it is, is easy to get. Every editor has bundles of it, and drawers full of it, but something new, something

novel, something that has not been told before, and, above all, something of unusual value to his readers, is sought for high and low. For men who can write such articles, the editor is always on the watch. To find them he travels about the country, visits conventions, and "catches on" to every little hint found in his letters. To illustrate: A man once gave me an inkling of a new system that he had discovered. when I at once took a trip of 500 miles to visit him, and afterwards paid him a good round sum to write up his system for the Review. Many practical men, those who can write from a large experience, have very little education in the line of writing; and it is no little work to put some of their communications into shape for print. In more than one instance have I found it the quickest and best way to simply re-write the article. An editor, however, doesn't mind these things; is glad to do it, if the *ideas* are only there.

Then the editor of a journal must read all of the exchanges; doing the work thoroughly, carefully and thoughtfully; trying to realize that ideas and articles are not to be noticed simply because they happen to agree with *his* way of thinking. Many times the ideas in an article can be condensed into a short item of a few lines; again it may require quite a little space to do the subject justice; and, occasionally, an article is so valuable, or so well-written, that it must be copied entire. Then these extracts usually call for editorial comment. Some point needs to be emphasized, another criticised, perhaps something added that the reading of the matter has called to the editor's mind.

Then there is the writing of the editorials. I often ask myself, where do the ideas come from, where do I get the seed thoughts? They come from everywhere. From the reading of the other bee journals, from visiting and working in apiaries, from attending conventions, from reading the letters of bee-keepers, and, often from matters that may seem quite remote from bee-keeping. I think this "editorial habit" grows upon a man. He almost constantly has his paper with him, "in his mind;" every incident that comes to him is at once examined and compared with other facts, and all with a view as to whether it will prove available as "grist for his mill." The more an editor gets about, the more people, of the right kind, he meets, the more experience he has in the apiary, the more journals he reads, etc., the better will he be able to write helpful editorials In one sense his mind might be compared to a well. If it is continually pumped out, and no more runs into it, it will soon "run dry."

As all of this matter comes to hand, it is sorted over, and that thought suitable for use in the Review is edited (corrected ready for the compositor) and put away in twelve large envelopes. Upon the side of one envelope is written the word "January;" on the next "February;" and so on for all of the months. Matter appropriate for publication in January is placed in the January envelop; that for June in the June envelope. When the time comes for getting out the June Review, the June envelope is taken down, when a large share of the "copy" will be found all ready prepared for the printer. It sometimes requires some will-power to put away, in August, a most excellent article on "shook-swarming," and wait until the next May before publishing it; or to wait from March until October before printing an article on the ventilation of bee-cellars; but I think the value of a bee journal is largely increased by having the matter timely.

The foregoing gives just a glimpse of the pains and work employed in securing reading matter for the Review;

then comes the advertising. About this there is a continual and endless correspondence. Many advertisements have to be edited, sometimes wholly rewritten, the same as is the case with some articles. There are old advertisements going out each issue, and new ones coming in, besides the changes to be made in some that are run regularly. I often have several letters back and forth with an advertiser, helping him to get his advertisement in the best possible shape. I have even set up an advertisement, and sent an advertiser proof, that he might see exactly how it would look, how much space it would occupy, and how much it would cost. I once spent a day and made a journey of 140 miles, to consult with an advertiser who was thinking of using a half page in the Review for several months, and I thereby secured the advertisement. I read journals devoted to adveriising, not only for the sake of making my own advertising more effective, but that I may be able to help my advertisers with their advertising. Some might think that all of this care and assistance for advertisers unnecessary and uncalled for. "Let advertisers fix up their own advertisements—that's their business," some may say. Not so. The better advertising a man does, the greater his custom and the greater his profits, and the more likely is he to continue the advertising, thereby bringing profit to the publisher. Then, besides this selfish motive, there is an unselfish desire to help my friends, the advertisers.

Aside from the reading matter and the advertisements, there must be one good picture in each issue, sometimes several of them, and to secure these requires no little effort. As I said in regard to corresponence, it is notrouble to secure any number of photographs, but to get such as are wanted is not so easy. I have said that I would never publish a poor picture or engraving in the Review, and, so far, I have pretty nearly kept my word. Not only do I try to have beautiful, clear pictures, but I endeavor, as far as possible, to have them of some actual use, like the one in this issue, for instance. Of course, the possession of a camera, and knowledge how to use it, have greatly aided me in making the pictures in the Review what they have been —to secure the subjects, however, I have travelled hundreds, yes, thousands of miles, and shall probably travel as many more.

After the material has been gathered for the making of the Review, then comes the mechanical part; that of setting the type, taking proof, making the corrections, arranging the matter in pages, putting these pages into a steel frame called a "chase," in which the matter can be squeezed up so tight, "locked up," that it can be lifted up and carried like a solid board, the putting of this "form" of type on a press and doing the actual printing, that is, the presswork, the folding of the printed sheets, the gathering together of the different sheets into one book, or copy, of the Review, the stitching of these copies, the trimming of them, the wrapping of them up for mailing, yes, and the setting up in type of the names and addresses, of the subscribers, the printing of the lists thus arranged, and the cutting up and pasting on of the addresses, by the use of a "mailer"—these are some of the things that must be done in "getting out the paper." To describe them all in detail would be of interest to those not acquainted with the art of printing, but it would require at least a whole issue of the Review.

A publisher, like the manager of any enterprise, has his business "on his mind" most of the time. He is asking himself such questions as these: Is the paper I am using good enough, is the old type becoming so worn that the paper deserves a "new dress," could

new display type or borders be used to advantage in the advertisements, should I use more engravings, how is the cover to my journal, is there any way in which it can be made more handsome or appropriate, am I publishing enough correspondence, or would my readers be better pleased with more editorials, in what way can money be spent to the best advantage in improving the paper, etc? Several years ago I spent $50 in sending out circulars to those who had allowed their Review to be discontinued, asking them why they had stopped taking the Review. Quite recently I spent a similar sum in asking those who had received samples and not subscribed, why they did not subscribe. A self-addressed stamped envelope was sent out with each circular. In each of these instances the knowledge gained has warranted the expense. Actual knowledge of what is wanted by subscribers, of what will please them best, is of inestimable value to a publisher.

And after a man has succeeded in making a good journal, then comes the selling of it. As the raising of a good crop of honey is only half the battle, so the publishing of a good journal is only laying the foundation for success. The advertising in its various forms, the securing of subscribers, and, the holding of them, in short, the selling of the journal at a good price, and getting the pay for it, calls for fully as much time, energy, thought and expense as does the making of it—but that is another story.

Just a word more in closing: If a man has no taste nor ability for this kind of work, if he can't do it contentedly, cheerfully, yes, even enthusiastically, he better go out and dig ditches.

EXTRACTED DEPARTMENT.

SUGAR-FEEDING IN THE APIARY.

Does the Practice Add to the Belief in Adulteration?

Several times of late, has there been mentioned in the Review, the practice of feeding sugar to bees, either as a stimulative food, or as winter stores. There seems to be some opposition to this practice, and, as I wish to be entirely fair, and give all sides a hearing, I copy from the American Bee Keeper an article by Arthur C. Miller. It reads as follows:—

At last Uncle John Hardscrabble (or his ghost) has touched a subject where we can meet on common ground.

The feeding habit is, I believe, a real evil to the bee-keeping industry. It is not conducive to popularity to assail the practice; in fact, the person who even hints that bee-keepers should abandon it, is pretty sure to be censured, and, as the Deacon has said, to be charged with writing for effect.

Yes, I am writing for effect—to effect a change—though the possibility of any improvement seems remote enough. Aught that touches the bee-keeper's pocket, touches a tender spot, and to ask him to abandon a lucrative practice without offering him an as good or better alternative, is hopeless, unless he can be shown an ultimate loss or certain disaster from pursuing present ways. Some time ago I wrote a criticism of an article on feeding, and the editor to whom I sent it very courteously wrote me, saying it seemed unwise to open a discussion along such lines, that it would only arouse suspicion on the part of the public and would do no good.

The suspicions of the public are already aroused. A large part of the consumers know quite well that bee-keepers feed their bees sugar in some form, and they believe that much of the honey is so produced. They are decidedly sceptical as to the bees' ability to gather more than a very few pounds from the flowers, and naturally attribute the balance to the sugar barrel.

There are times when the bees must be fed to live, and it is quite logical to use the cheapest and most convenient material available, but even under stress of such necessity I question if it would not be better to buy cheap honey for the purpose, if only for the looks of the thing. When it comes to stimulative feeding and feeding for winter stores, there is no question in my mind but that honey is the better food both from the point of utility and from that of ethics.

Suppose it is possible to so feed the bees that all of the syrup is consumed and that none of it goes into the surplus; the average consumer won't believe it. It may be said the consumer does not know. Perhaps not in many cases, but he does in others, and suspects all. Then if he asks the bee-keeper, what is the result? We know that the small amount of syrup that gets into the honey from stimulative feeding (when this is carefully and honestly done) is small indeed. But there are the looks of the thing, and the name of it, and such a name does not react to our advantage.

But none too few among us are not careful with stimulative feeding, and as for fall feeding, they crowd the brood chamber with food. Anyone who is familiar with the various feeding systems advocated is well aware that most of them afford ample opportunity for some of the syrup to get into the honey. If there is a probability or a possibility of any being there, then the bee-keeper cannot honestly say that his honey is absolutely pure. And until we can say that we cannot raise our hand or voice against others who buy our honey and then add more syrup of some kind.

Furthermore, countenancing of the feeding practice affords an excellent cover for the dishonest man to feed purposely for sale as honey.

But there is another phase of the subject.

We are competing with syrups of different kinds, based on sugar or glucose, and we turn around and buy from our competitors, get the name of having their goods in our products, and get the price of our products forced down toward the level of theirs. Besides the influx of cheap honey threatens the prices still more.

Is it not possible for us to drop the sugar and buy this cheap honey and feed that to our bees, thereby removing one article of competition, stopping our patronage of the sugar manufacturers and removing all grounds for stigma on our goods?

The danger of foul brood need cause no worry. Scalding the honey will prevent contagion from that source. For very late fall feeding and for spring stimulating, the honey is much better than sugar syrup. Bees have to "invert" the cane sugar before they can use it. It is really a part of the digestion of the food, but is performed outside the alimentary canal proper. It costs the bees energy, and this energy is normally given when the atmospheric temperature is high and when bee life is cheap. Late given sugar stores and early spring food demands the services of the bees when conditions of temperature and numbers are against them. They can thrive under such adverse conditions, but how much better might they do if they did not have to work against such odds. Some bee-keepers have said they can see no difference between the two kinds of food, so far as the bees are concerned. But the difference is there and can be determined when the experiments are properly made. The sugar men appreciate the value of our patronage, and they use our letters and our published articles to further the sale of their goods. Their circulars bearing our recommendation go broadcast over the land, and they speak of the use of sugar in terms of tons, not pounds.

Here is an extract of a testimonial from one such circular. I have omitted name for obvious reasons:

"Within a month we have used a ton of ——— Dry Granulated Sugar procured from ——— Sugar Co., which we have fed to our bees. Today we are ordering two tons more of the same, and expect to feed it during the entire season. We find the best way to feed it is two-thirds sugar and one-third water. * * * * This sugar makes a good syrup and the bees take it and store it readily."

There are the facts, gentlemen. It is for you to decide whether or not you will continue practices so fraught with danger to our industry.

To my mind, the most logical argument in the foregoing is that the using of sugar for feed, increases the amount of honey left upon the market. This is true; and, if the amount of sugar fed were considerable, I should look upon

the matter as one worthy of serious consideration. Very few people comparatively, find it necessary to use sugar for either fall or spring feeding; and I greatly doubt if the practice will ever become sufficiently great, even if universally approved, to make any difference in the price of honey.

There is no doubt that in many localities honey answers equally as well as sugar for winter stores, and in some places it may be purchased as cheaply as sugar, but the danger from foul brood is too great to countenance the practice of buying honey and feeding it to the bees. Only an inspector of apiaries knows of the numerous instances in which foul brood has resulted from the bees gaining access to honey that has been purchased. Of course, no one should ever think of buying honey and feeding it to the bees without first boiling the honey. In this case the honey must be diluted by adding an equal quantity of water; and I fear that the energy required to evaporate this water may fully be as great as that required to "invert" cane sugar. Then, how do we know but this "inversion" does not come about automatically, so to speak, without effort or energy? If honey is thoroughly and properly boiled there is no question but what it will then contain no living germs of foul brood, but we must take into consideration the lack of thoroughness, and the carelessness, with which many people are afflicted. Perhaps there is a little honey slopped up against the inside of the vessel, above the upper surface of the honey as it stands in the vessel, and this honey is never boiled, and later, this honey becomes mixed with the other; we all know what the results would be. For the fear of getting foul brood into my apiary, I would never under any circumstances, buy honey and feed to my bees.

The objection most frequently urged against the use of sugar in the apiary is that its use may add to the belief in adulteration. It must be remembered, however, that the general public knows very little of what is going on in a modern apiary. The general public does not get its ideas of adulteration, of artificial comb honey, and all this, from visiting apiaries, but from the sensational stories going the rounds of the public press. I have always used sugar in my apiary whenever I found it profitable to do so, and I never could see that the reputation, or sale of my honey, suffered by so-doing. If neighbors or visitors called, and asked questions, they were answered truthfully, and full explanations given as to when, and why, and how the sugar was used. If the feeding of sugar for winter stores, or for stimulating in the spring, would bring with it a chance for detriment to the surplus. it would be an entirely different affair, but it *does not.* When it is better from a dollar and cent standpoint, and from safety to the bees in winter, to use sugar instead of honey, and, still further, we eliminate the danger of getting foul brood, I think it very foolish to refuse to use it because its use *might* give a chance for some one to say we adulterated our honey.

Bro. Miller speaks about the sugar-men sending broadcast circulars containing recommendations from bee-keepers. In all of my bee-keeping life I have never received such a circular. I wish he could have given us the name of the man who wrote that testimonial. It contains one very weak point. Where is the bee-keeper so lacking in sense as to feed his bees with sugar the "entire season," thus keeping them at home, at an *expense*, when they might otherwise go out and gather nectar that costs *nothing*?

I have never before had an opportunity for an argument with my good friend Miller, and I hope he will excuse me for having thus made the most of it.

The Best Bee Goods in the World

ARE LEWIS GOODS

BEWARE
WHERE YOU BUY YOUR
BEEWARE
LEWIS WATERTOWN, U.S.A.
MAKES THE FINEST

SEND FOR NEW CATALOGUE

NEARLY 100 PAGES

G. B. LEWIS CO., WATERTOWN, WIS.

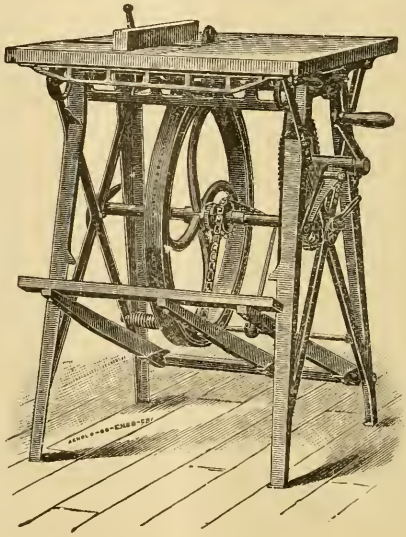
Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,
384 Ruby St.,
Rockford, Ills.
4-04-19t



Marshfield Mfg. Co.

Were we behind on orders this season? Yes, but we can fill orders again same day when received.

Remember our business is making honey sections and shipping cases, besides, being dealers in beekeepers' supplies. Send in your orders.

Marshfield Mfg. Co.

Marshfield, Wis.

The Graham-Hyde BEE COMPANY SPECIALTIES

FALCONER'S Bee-Keepers' Supplies. We have Falconer's branch house, covering the entire Southwestern States and Mexico. Send for special catalog, etc.

BEES and QUEENS All leading races. Bees and nuclei in any quantity, for distant shipments, a specialty. Send for circular and prices.

HONEY and WAX bought and sold. Honey cans in season. Be sure and get our prices.

OUR MOTTO: To have everything the bee-keeper needs, and to buy his product in return. Correspondence earnestly solicited.

THE GRAHAM-HYDE BEE CO.,

San Antonio, Texas.

Successors to the Hyde Bee Supply Co. 1-05-tf

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

The Pioneer Limited.

Famous Train of the World.

Chicago—St. Paul—Minneapolis.

VIA

THE ST. PAUL ROAD.

(Chicago, Milwaukee & St. Paul Ry.)

Equipment and Service Unequaled.

Time tables, maps and information furnished on application to

F. A. MILLER, General Passenger Agent, Chicago, Ill.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

3%

Discount on all orders sent in during January. By sending your order now you will save money and secure prompt shipment. Our Hives, Sections, etc., are of perfect workmanship. Send for catalogue —free for the ordering.

PAGE & LYON M'F'G CO.,
New London, Wis.

10-04-tf

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.
The demand for Laws' queens has doubled any previous season's sales.
Laws' queens and bees are putting up a large share of the honey now sold
Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.
Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

We'll Both Lose this Page Unless You Read it.

Let's start fair. Yes, I am the Yellowzone Man. I want to tell you a few straight things about these little yellow tablets. Wish I could see you face to face.



For 20 years I've been a general practitioner. Been located in the same town, and hard at work the whole time.

During these years I've studied and wrestled with the great problem of curing people by the easiest and surest methods. And I've wrestled and studied under most varied conditions. Gradually the combination now used in **YZ** began to take shape. Three things were necessary: It must be safe; have a wide range; and must DO THINGS. One change after another was made, some ingredients thrown out, others added, more of this or less of that—all the time watching for better and quicker results. Well, results came! My patients noticed it as well as I. With a little hand machine I made the remedy into tablets. Calls came for *them* instead of for *me*. "Ma wants more tablets like she had before." "Please send me some yellow tablets, same as before, when I was sick," etc. Then I found, to my pleasure, as well as consternation, that some of my best families were *depending on the tablets instead of on the doctor*, and were getting along all right. The Tablets were DOING THINGS. The local demand increased. I hitched a name to them—it was **YELLOWZONES**, and put them up in small envelopes with printed directions. "Hand Made" was too slow. In 1896 I arranged with The Abbott Co., Chicago, to make them, 100,000 at a time. They make them yet. If good for De Tour people why not for others? And I advertised. Used to own an apiary, myself, and got a notion that bee-keepers were a pretty fine lot of people, so I advertised in some of the bee journals. You see I do yet. Many leading Bee-Keepers who were among those earliest customers have used them in their homes ever since and are still among my best patrons—and *friends*. No, **YZ** will not cure all diseases, (though there are very few conditions in which they will not give great relief.) They will not perform miracles. But they DO THINGS. just the same. If you use **YZ** we're both better off. I make a fair profit on them, and you make more than I by the real good they do you.

Remember, when you buy **YZ** you deal with *me*.

If there's any kicking to be done you know right where to do it; or any advice wanted, you know just where to ask it.

Y ***Now let's get together—better for us both. You are not risking your dollar, for if not perfectly satisfied I'll return your money and make you a present of another box; a square deal, WITH NO STRING TO IT.*** **Z**

THE PRICE, with a vial of Zonets, for the bowels, is $1 00 per box. (Also a trial size, 25c.) W. B. HOUSE, De Tour, Michigan.



THE FOUNTAIN PEN

has the "LUCKY CURVE"

The "lucky curve" is a curve in the feed pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself, and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several other kinds. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pens varying in price from $1.50 to $10.00, depending upon the finish of the handle. My pen cost $2.00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,

Flint, Michigan.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prices
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

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1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with orders of $5.00 or over. Send for free list.

W. D. SOPER,

R. D. 3 Jackson, Mich.

Bees and Queens

Have you tried my queens? They are as good as money can buy; they are daughters of imported mothers; and no pains have been spared to mate them purely. When you send me an order I fill it promptly and guarantee perfect satisfaction. I have the three-banded Italians, goldens, Cyprians, Carniolans, Holy Lands and Albinos.

Untested queens, of either race, 75 cts. each; tested, $1.50; breeders, $3.00. Special prices on lots of a dozen or more. Two-frame nuclei a specialty.

B. H. STANLEY,

7-04-tf Beeville, Texas.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

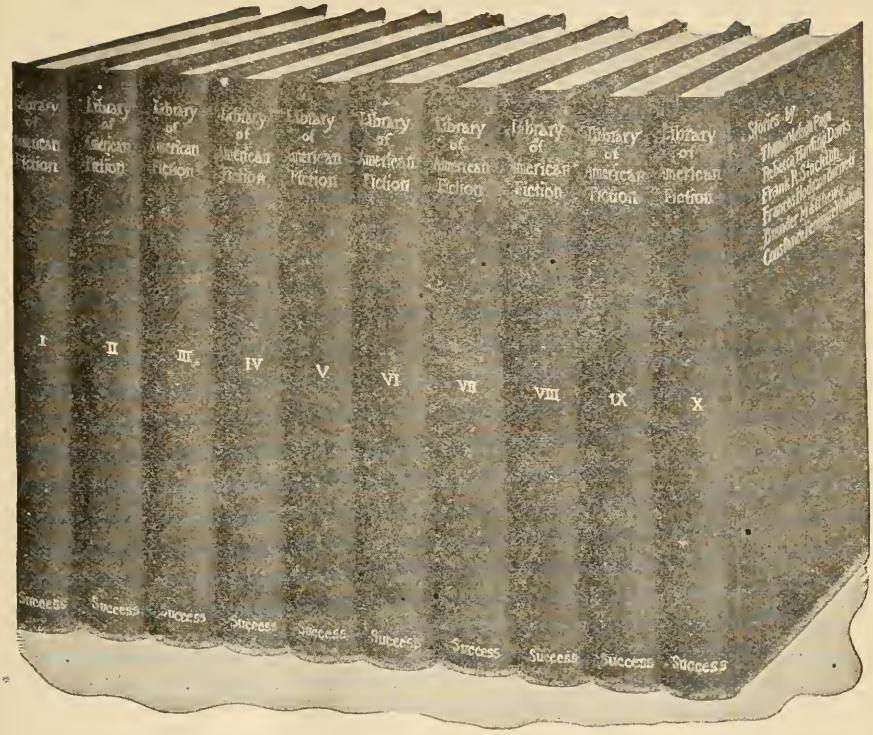
Comb and Extracted

Honey Wanted.

State kind and quality, how put up, and lowest price.

CHARLES KOEPPEN,

6-04-9t. **Fredericksburg, Va.**



Ten Volumes of Fiction.

To occasionally unbend and read a good story actually does us good, and it is with pleasure that I am able to make an offer of excellent fiction at an unprecedentedly low price. The Success Co. (publisher of the Success Magazine) has gathered together nearly sixty stories that are veritable gems of literature. Each story is complete in itself—not fragmentary, as in some so-called "libraries."

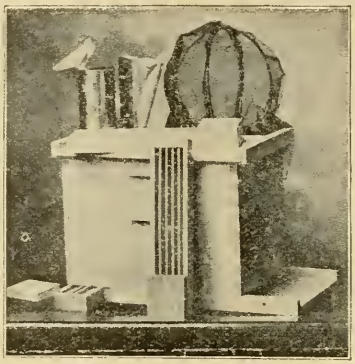
There is not room to mention all of the authors, over fifty in number, but here are a few of the names: Bayard Taylor, Frank R. Stockton, Edward Bellamy, C. A. Stephens, N. P. Willis, Rebecca Harding Davis, Frances Hodgson Burnett, Octave Thanet, and many others in this same high class.

The ten volumes contain nearly 2,000 pages, and are strongly and richly bound in silver-gray, watered cloth having the appearance of fine silk.

Now as to the offer: I will send that splendid, helpful, monthly magazine, "Success," and the Bee-Keepers' Review one year, and these ten volumes of fiction, *express prepaid*, for only **$3.75.**

This set of books may also be secured by adding $2.00 to any of the club-offers made on page 2.

W. Z. HUTCHINSON, Flint, Michigan.



Dovetailed Hive Showing the Eastman Feeder in Position.

There is a growing demand for a feeder that can be used for simulative feeding in spring; one that can be left under the hive all summer, and one that can be used at all times without exciting robbing. The

EASTMAN FEEDER

fills the bill. We show one in place, one standing on end and one on cover.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

I CAN SELL GOODS CHEAPER than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small country town where labor is cheap; I have new, up-to-date labor-saving machinery run by water power—the cheapest power in the world. Not only will I sell goods cheaper, but ***I will pay the freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering.

THE RURAL BEE KEEPER

A monthly bee journal devoted to the interest of the Bee Keepers of America will teach you how to make money with Bees. May number tells about feeding bees. July is devoted to Queen Rearing; August to marketing honey. September to preparation for winter; October, the wintering problem. I aim to give big value for your money. Swarming, and how it is being controlled to the cash benefit of the Bee Keeper, is the subject upon which the June number treats. It will be the purpose of the Rural Bee Keeper to champion the cause of the small country bee keeper, to show him the way to make money out of bees, by first showing how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense, and later will show him how to cash his crop. Subscribe now. Begin with the first issue and get fifty dollars worth of good sound information in one year for fifty cents.

IN THE FRONT RANK

Beverly, N. J., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

I must congratulate you on the reading matter you have in the Rural Bee Keeper, it is all that could be desired, and just what I have been wanting. I take seven Bee papers and consider yours only equaled by Gleanings and the Review. Every number so far has been worth more than the subscription price to me. I do not see how you can fail if the present standard is kept up. Wishing you success, I remain,

Yours truly,
JAMES T. FENNELL.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations.

The fol owing rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent when a shipment sells for as much as one hundred dollars.

CINCINNATI—Since our last report was published, the price of extracted honey has advanced, no doubt acting in sympathy with the sugar market. We quote amber extracted in barrels 6 to 6½c; white clover extracted in barrels and cans, at 6½ to 8½c; fancy comb honey, 13 to 14c; beeswax 28c.

THE FRED W. MUTH CO.
Dec. 38 51 Walnut St., Cincinnati, Ohio.

PHILADELPHIA—Honey has not been quite so active in the last ten days, but more demand is expected soon, as more honey is sold at the present time than at any season of the year. We quite: Fancy white 15 to 16c; No. 1, 13 to 14c; amber 11 to 12c; white extracted 7 to 8c; amber extracted 6 to 7c; beeswax sells quick 25 to 26c. We are producers of honey and do not handle on commission.

WM. A. SELSER,
Dec. 8, 1904. 10 Vine Street,
Philadelphia, Pa.

ALBANY, N. Y.—The demand for honey is improving some as the season advances. We think present prices are good to take, for from information throughout the country, would seem to be a larger crop than last season, although the crop in this vicinity is short. We have to depend on outside producing sections. We quote as follows: Fancy white 16c; No. 1 white 15 to 16c; fancy amber 13 to 14c; No. 1 amber 12 to 13c; fancy dark 12 to 13c; No. 1 dark 11 to 12c; white extracted 7 to 7½c; amber extracted 6 to 6½c; dark extracted, beeswax 28 to 30c.

H. N. WRIGHT,
Wholesale Commission,
Sept. 1 Albany, N. Y.

KANSAS CITY—Not much demand as yet for comb honey, although extracted is moving fairly well. We look for better demand after first of the year. Beeswax in good demand. We quote as follows: Fancy white, per case $2.25; white extracted, 6½ to 7c; beeswax 30c.

C. C. CLEMONS & CO.,
Dec. 30, 1904. Kansas City, Mo.

KANSAS CITY—Market has been overstocked with both comb and extracted honey; but of a poor quality. No. 1 to fancy is in demand. A good demand for beeswax. We quote as follows: Fancy white, 11 to 11½c; No. 1 white 11c; fancy amber 10c; white, extracted 6½c; amber 6c; beeswax 30c.

WALKER-BREWSTER GROCER CO.,
Dec. 30, 1904. 423 Walnut St., Kansas City, Mo

CHICAGO—There is a fair demand for honey at following prices: Fancy white 13c to 14c; No. 1 white, 12 to 12½c; fancy amber 10 to 11c; No. 1 amber 8 to 9c; fancy dark 9 to 10c; No. 1 dark 8c. White extracted 6½ to 7c; amber 6 to 6½; dark 5 to 6c; beeswax 29 to 30c.

R. A. BURNETT & CO.,
Dec, 28, 1904 199 So. Water St.

BUFFALO—Really fancy or No. 1 sells well as quoted, but lower grades have to be pushed and cut to move them. We quote as follows: Fancy white 14 to 15c; No. 1 white 12 to 13c; fancy amber 10 to 11c; No. 1 amber 9 to 10c; fancy dark 8 to 9c; No. 1 dark 7 to 8c; white extracted 5 to 7c; amber 5 to 5½; beeswax 25 to 32c.

BATTERSON & CO.,
Dec. 29 1904. Buffalo. N. Y.

NEW YORK—The market is quiet on comb honey. Extracted is selling fairly well. Beeswax wanted. We quote as follows: Fancy white 14 to 15c; No. 1 white 13c; fancy amber 12c; No. 1 amber 11c; fancy dark 10c; No. 1 dark 9c; white, extracted 6 to 6½c; amber 5½ to 5¾c; dark 5 to 5½c; beeswax 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Dec. 29, 1904. New York.

CHICAGO—Trade on honey during the past two weeks has been very good, although a good many of the jobbers are holding off buying until after Jan. 1st on account of stock taking.

The supply of comb honey is liberal, and more than equals the demand.

We look for a good trade on extracted from now on, and advise letting shipments come forward. We quote as follows: Fancy white 13 to 14c; No. 1 white 12 to 13c; No. 2 white 10 to 11c. No. 1 white, extracted 6½ to 7c; amber 5 to 6c; beeswax 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
Jan. 3, 1905. Chicago, Ill.

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FEBRUARY, 1905.



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Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

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Flint, Michigan, Feb. 15, 1905

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Arizona	46	Ky.....	182	N. C.....	60
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12-04-tf



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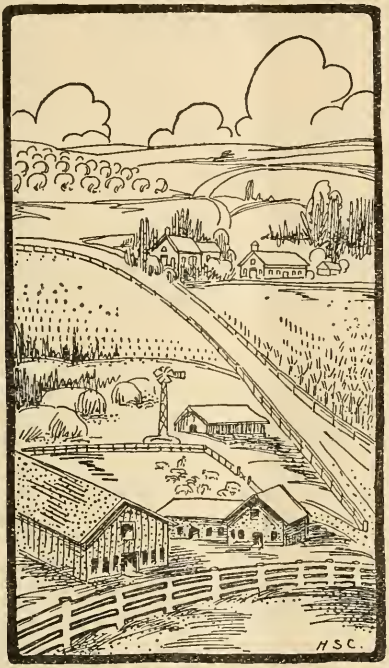
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Devoted to the Interests of Honey Producers.

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W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, FEB. 15, 1905. NO. 2.

One Large Apiary Versus Out-Apiaries, in New York.

BY E. W. ALEXANDER.

FRIEND HUTCHINSON, I herewith send you a report of our honey crop for 1904; also a photo. of our apiary. On account of the ground sloping to the south and east, we could get a view of only about 400 colonies, or a little over one-half of the yard. The small building in the center is the extracting house with the pipe that conveys the honey to large tanks in the store-house,

A LARGE YIELD FROM A LARGE APIARY, WITH AN ORDINARY SEASON IN AN ORDINARY LOCATION.

Some people seem to think we have an exceptionally good location, but I assure you that is *not the case*. We have kept bees in this place 19 years, and, during that time, have been able to get a surplus of light honey in only four seasons; but we usually have a good harvest of dark honey from buckwheat in August. This season we got a nice harvest of light honey from clover, with some from basswood, but, on account of cool, cloudy and wet weather, our buckwheat harvest was one of the *poorest* we have ever had. I think Coggshall speaks of it as only half a crop. I call attention to our honey resources, and the season, to let the readers of the Review know what bearing they have on the subject of over stocking. Our bees came through the winter and spring in rather poor condition. We had only 600 colonies, all told, on May 1st. These we kept in one yard at home, and increased, by dividing, during May, to 725 colonies. Since weighing our honey we find we have a surplus of 141¼ pounds per colony, spring count, or a total of a little over 70,600 pounds of extracted honey. We also had 80 sections filled with comb honey for our own use; then we had 3,690 sheets of foundation drawn out into nice extracting combs, made some 160 pounds of wax from cappings and reared over 600 choice queens. Now, as this is only an *ordinary* location, and has been only an *average*

season, how can any *sane* man say that I am so *decidedly* in the wrong on this subject of over-stocking, as some people try to make out?

In the November Review you ask for those who have kept bees in large numbers, and from my experience, I will endeavor to answer some of your questions.

NUMBER OF COLONIES THAT WILL JUSTIFY THE STARTING OF AN OUT-APIARY.

First comes the subject of overstocking, which every man must settle for himself; although I have never had a location, nor seen one, that would not furnish a good surplus of honey for far more bees than it contained; and I have kept, since a boy, several hundred colonies.

HAVE APIARIES WIDELY SCATTERED.

If I were establishing out-apiaries again, I should place them so far apart that, frequently, one yard might receive a local shower that missed the other yards. A yard of bees that gets a good shower at the right time, often gives a nice surplus for many days after. If I could have the apiaries located exactly as I wished, I would have them scattered, about 10 miles apart, along the line of a railroad running north and south. In this section, our showers all come from the west and travel east; they are about five to ten miles wide, and usually about 50 to 70 miles long. By this management we might often have some of our yards in a good basswood or buckwheat location which we might not have at home.

In selecting a location, be sure to have it where there is a good natural wind-break on the west and north sides; high hills or heavy woods, something that will furnish a sheltered place of several acres. Try to have plenty of water near by, as bees require far more water than many realize. I should want the ground to slope a little to the south or east, and then, *above all things*, be sure you have some one or more honey producing flowers in abundance for 30 days or more. When you have found these necessary requirements, stock your yards with the *best* honey gathering strains of Italian bees that *money can buy*; and don't be *afraid* of overstocking your location. Try to buy the land, one or two acres, where you want your apiary. If you can't buy it, hire it for a long term of years; and pay a good rent so that the owner will be well-satisfied.

In regard to hives, I have found it cheapest in the end to get all my hives in the flat from a factory where they do good work.

I should make all increase artificially, and try hard to prevent natural swarming. There are many good ways of making increase, and some day I may give you my way, which I consider the best of any. We have devoted all our bees, for about 20 years, to the production of extracted honey. If short of help, I would return to comb honey. Each kind has some advantages over the other.

In regard to buildings there should be a good building at each yard, together with all the necessary tools, even to a wash basin and towels.

As to help, I always want the best that I can possibly get. Pay them good wages, and don't forget to always treat them as you would like to be treated.

In this northern climate I should want a good cellar at each yard to put the bees in during the winter. If possible I would have it near the summer stands, so that the bees can be carried by hand to their summer quarters.

I know of no more obstacles to overcome in caring for 1,000 colonies than in caring for 100.

THINGS I HAVE LEARNED IN STARTING OUT-APIARIES.

First, I now know that bees can work to good advantage four or five

miles from home. I used to think a mile and a half, or two miles, as far as they ever went. Next, I now know that in an ordinarily good location, bees do not visit one flower in ten that are within their reach. I have also learned that it makes no difference whatever how much *bloom* there is, if the weather is unfavorable for the secretion of nectar, then bees will get little or nothing. This I have seen proven many, many times. One year I came within 24 hours of losing nearly all the colonies in several out-yards from starvation, in June, when the meadows were white with clover; simply because, for nearly two weeks, the flowers secreted no nectar. Two years ago, when thousands of acres of buckwheat, at this place, was in full bloom, for 12 days, it secreted no nectar, and I lost many hives full of brood by starvation.

I also now know that I would rather take care of 700 or 800 colonies in one yard, at home, than to care for 300 colonies, divided into two yards, six miles from home, and in opposite directions.

Still another thing I now know, that I can get just as much surplus honey, per colony, from 700 colonies in one yard as I ever got from the same number when kept in five yards, four or five miles apart.

These are a few of the many things I have learned, by dear experience, that I did not know when I was keeping most of my bees in out-apiaries.

THE LARGE APIARIES THAT ARE KEPT IN EUROPE.

Now, as some of you may think I stand alone on the subject of overstocking, I will quote some things Prof. Frank Benton told me last summer while visiting our place.

When he was travelling in different parts of Europe he found much larger apiaries than we have in the United States. Especially so in Carniola. There the bee-keepers from the mountains take the bees down into the valleys, put them on the cars, making up long trains loaded with bees, and have them taken to places where the farmers raise buckwheat. There they rent a plot of ground to set their hives on, paying a small amount per colony, and the Professor told me it was no unusual thing to see three and four thousand colonies, inside of a *mile*, along these railroads, and that, too, for many miles in *one continuous line*. I asked him if they got much honey. He said *when the weather was right*, so the bee-keepers told him, they got five to six pounds per colony, per day, and they never thought the location overstocked.

There, my friends that comes from as good authority on this subject, as there is in the world. I will also quote a part of what Prof. Benton says on page 56 of Bulletin No. 1, New series, revised addition, Division of Entomology. He says: "The danger of overstocking is largely imaginary; yet, in establishing a large apiary, it is, of course, essential to look to the natural resources of the location, and, especially, to decide only upon a place where two or three of the leading honey producing plants are present in great numbers." I think the above covers the whole subject completely in a few words.

In conclusion, I will say, I don't expect you all to think as I do; for, had I been asked these questions 25 years ago, I should have answered most of them very differently from what I have today. Many of you will have to go through that same dear school of experience, the same as I did; but I do hope you will find something in what I have written on the subject of bee-keeping that will help you on to success.

DELANSON, N. Y. Jan. 6, 1905.

A Successful House-Apiary in the Loft of a Barn.

BY L. C. ROOT.

SOME of the older readers of the Review will certainly remember Mr. L. C. Root, a son-in-law of the late Moses Quinby. Mr. Root was for many years a specialist, and has been President of the National Association. He also revised Mr. Quinby's book "The Mysteries of Bee-Keeping." In order that his daughters might have better educational advantages, he gave up bee-keeping, and went to live in the city. Since then the bee-keeping world has heard from him only too little. When he wrote me a letter and told me how he was succeeding, in a small way, with bees in the loft of his barn, I asked and obtained permission to publish his letter, which is decidedly interesting. It reads as follows:—ED. REVIEW.

Mr. Dear Mr. Hutchinson—Yes, it is good to keep in touch with the bee-keeping friends. While I am able to keep bees only in a very small way, I am much interested, and I cling to old associations with deep feeling. When I came to the city to live with my daughters, I sold all of my bees, but, three years ago, I took a swarm from an attic in town, and for the want of a better place, I put it in the loft of our barn. Two years ago I increased to two, and took 100 pounds of comb honey. I soon began to see there were many advantages in the indoor management of bees. The two colonies wintered so well that, a year ago this spring, they both swarmed in April, and I increased the two to eight, last season, and took 50 pounds of comb honey. Last fall I had four more swarms given me. They had only partly enough honey for winter. One of them had none. In spite of the severe winter they took feed from the feeder, and three of them wintered extremely well. One being queenless, it had to be built up this spring. I am now sellimg nine stocks, as I cannot handle the number I now have, for want of room.

ARRANGEMENT OF HIVES.

The colonies are arranged on the south and east side of the barn. I prefer to have the front of the hive a little back from the side of the barn, with a passage to the outside, as the bees are less affected by cold air that comes in through the entrance. The temperature would vary all the way from below freezing to ordinary winter weather. Our horses were kept in the stable below, and, for washing wagons and caring for the horses, a coal fire was kept in the barn; amount of fire varying with the weather.

HOUSE-APIARY MAY BE WARMED IN WINTER AND COOLED IN SUMMER.

Some of the advantages of this indoor manipulation of bees are that they can be handled with much less liability of robbing, and feeding can be resorted to at any time without exposure. By using a frame covered with wire cloth. for a honey board, and having proper ventilation in the bottom board, I could have full sheets of foundation drawn out without their sagging, and that too, without using wires in the frames. The wires are, to me, an objection. In hot days when bees are inclined to cluster idly on the hives, I found that, with this ventilation, they would continue to work.

In the hottest weather I often cooled the room by spraying with cold water. In short, the advantage is that such a

room can be kept warm in cold weather and cool in warm weather. Then I am coming to the conclusion that many colonies of bees become restless in the dark, and leave their hives when they would not if located with the entrance continually open to the light. My practice of keeping a supply of feed to continue breeding when the natural flow of honey was not sufficient, has proved a marked success. I have used a feed composed of honey, granulated sugar, and rye flour, using it during early spring with good results. I am more inclined to believe that the house-apiary will yet come to stay.

I would like to be located where I could build such a one as I have in mind.

STAMFORD, Conn., June 3. 1904.

Poor Success Wintering Bees in A House-Apiary.

BY S. A. NIVER.

FRIEND HUTCHINSON:—The Review for December is here, and I feel just like yanking a bit of chin music over it, for it hits me on a tender spot. The first article I ever "spieled" for a bee journal, was an illustrated description of my own "North Star" house-apiary. It appeared in the "American Bee Journal," and was a case of "blasted hopes"—for I lost 90 per cent. of my bees trying to winter them in the d——d thing. They were packed warm and snug, too, in a *foot* thick of planer shavings. Coggshall bought half of it, moved it to an outyard for a honey house (it was a "knock-down" affair), but did not get it there in time to erect it that fall, so piled it up in a corner of the yard; and he always declared that it killed 50 per cent. of his bees—piled up there in the corner! The "harp struck by lightning!" Why??? Don't you see, a harp struck by lightning is a blasted lyre—Eh?

Loucks has, obviously, hit upon ways to overcome some, if not most, of the objections; the two most serious of which are loss of queens in mating, and of bees in wintering. You were not at the Minneapolis convention, as you expected to be, hence you missed a point brought out there along this same line. That is, a member reported perfect wintering in a bee cellar in the bottom of which was a living spring of water, from which flowed a good sized stream. A stream of water to equalize temperature—and—carry off the carbonic acid gas (?) — — — (this confounded pen is running away again.) It looks as if that would solve the *wintering* problem for house-apiaries.

COLONIES BECOME QUEENLESS FROM AN EXASPERATING LOT OF CAUSES IN A HOUSE-APIARY.

I see he gives up trying to mate queens in the house-apiary, and rears queens at home; preventing swarming by his system of manipulation. Guess that's right, too, but queens disappear in a house-apiary from other causes; notably, strange bees mistaking entrances when so close together. You may paint the thing until it is a regular zebra—nail patches of brush, rags, or any old thing, over,

or under, or "forninst" entrances; and your yellow Italians will be found three or four doors "beyant" with your pet Carniolans. They *will* "drift"—and that is bad, many times, for queens.

If you have files of the American Bee Journal, of about 10 years ago, you can see one *kink*—that we liked very much. Where the upper tier of hives sat, the building was *wider*; projected the width of the shelf.

Loucks will bump his head when he works the lower hives—mine worked just *slick*. I endorse every word on the *good points* he brings out.

DULUTH, Minn., Dec. 19, 1904.

Producing Large Crops of Comb Honey in the South,

BY GEO. A. HUMMER.

AS conditions in the South are so much different from those in the North and East, I am afraid my experience in keeping bees in large numbers will not be of much benefit to a large majority of your readers. On my place I have 400 acres of sweet clover from which I pasture 150 head of stock, get some hay, and keep 450 stands of bees in the home-yard.

Cottonwood, plum and red bud come first; then in April or May, we usually have some honey dew. In June and July comes our main flow, from sweet clover, which usually lasts six weeks. Then comes cotton, followed by Spanish needle and goldenrod. We find, that sweet clover sown on our sod makes the best kind of grazing, as well as hay, besides being our best honey plant. I also lease 400 acres adjoining my place, and keep 250 stands there in one yard.

In this locality some one must be in the yard from April 1st to Sept. 15th; and, unless I can get the best of help, I would rather give the owner of the land an interest in the apiary.

Unless I lived near a planing mill I would buy my hives of the manufacturer, as I have yet to find a carpenter that will make a hive accurately. I have bought bees in home-made hives. Some had no bee-space, some had *several*, and after one year's use they went to the kindling pile.

I would have a tent and a set of tools at each yard. Our working season is so long that we get all the increase we want by natural swarming. About one-third of the colonies will swarm before Sept. 1st, but there are very few swarms in the honey flow.

I started ten years ago to produce extracted honey, but I finally decided that I could secure nearly as much comb as extracted. Why is this? My idea is that the bees can secrete wax very rapidly in our warm climate, and, the season being so long, they secrete about enough wax for building the comb for comb honey.

I use plain sections and fences, and put on supers as needed until they are three-high. This gives plenty of room and discourages swarming. During sweet clover bloom, I can use supers three-high with no danger of travel-stain. All bees are wintered on the summer stands without loss.

Take plenty of time in finding the *best* location *possible*. I consider this the most important of all. Then be sure to have everything ready long be-

fore the honey flow; hives made up and painted, shipping cases and crates nailed up and supers filled; be sure to have *plenty* of supplies on hand in time for the seasons use.

Clip all queens and keep none over two years. Keep track of the best ones, and get the best stock possible. Give all your time to the bees. Do not try to work in the field, and keep bees on a large scale. Dairying or poultry-raising, or, perhaps fruit growing on a small scale, may go with it. I give my bees all of my time; and my ten years' average has been nearly 100 pounds of comb honey, per colony, spring count.

BRAZELIA, Miss., No. 14, 1004.

Shook-Swarming and Breeding Out the Swarming Instinct.

BY L. M. GULDEN.

THE remark has recently been made by a prominent apicultural writer, in one of our leading bee journals, that our new acquisition, "shook swarming," is, in reality, a retrograde movement. The claim is made that it has been the constant aim of our apiarists to stamp out the swarming propensity, as much and as soon as possible, by selecting, for breeding, those queens the bees of which are least given to swarming, and that "shook swarming," is in direct opposition to this aim, from the fact that by its practice, colonies are *swarmed arlificially*, thus the swarming instinct, or inclination of the individual colonies is lost sight of.

When any really difficult work is to be acomplished, it is the practice to supply some temporary means of overcoming obstacles which hinder, until the main work has been perfected; the temporary provisions are then discarded. This is practically the position which "shook swarming" now holds in the work of suppressing the swarming instinct.

There is no doubt that the suppression of swarming is the great problem before the bee-keeping world. It is apparent to every practical apiarist. When he works in a yard or several yards, and compares the work of the individual colonies which have not swarmed with that of those given to swarming, the truth of the above assertion is brought very forcibly to his mental recognition. Our large yields, comparatively, come from the colonies least given to swarming. Indeed, excessive warming, with its consequent insufficient stores, and resultant winter losses, has turned many a prospective bee-keeper from his "bee line," to wing his course over fields less hazardous, and where he is more certain of obtaining a fair remuneration for his toil. Excessive swarming is worse than moderate swarming, in *degree* only. Swarming may *denote* prosperity, but prosperity does not necessarily *follow* swarming; indeed, the opposite is often true.

When shook swarms are made in a wholesale way, irrespective of a certain knowledge that the colonies will swarm, normally, within a natural lapse of time, it is certainly detrimental to the permanent suppression of the swarming propensity. However, little, we think, is to be feared in this

direction; as such a course is sure to end disastriously, except in extremely favorable localities, and the practice is sure to be abandoned sooner or later.

SHOOK-SWARMING NO HINDRENCE TO BREEDING OUT THE SWARMING INSTINCT.

The swarming instinct can as well be bred out where shook-swarming is being practiced as where it is not. Shook-swarming is, in reality, nothing more nor less than *anticipating nature*, and has practically no influence on the swarming itself.

ADVANTAGES OF SHOOK-SWARMING.

Whereas, we used to sit on a box, and wonder when dame nature would see fit to send a swarm tumbling from the entrance of some hive (and when the swarm came, not improbably it was from some hive which we had no idea would cast a swarm that soon), now we simply pull off the covers of the hives, one by one, make an examination of the brood nests, and then note down, within a day of the time, when swarms will issue normally, from certion hives. Those colonies that have made no provisions for swarming, may be counted on for staying at home at least another eight days. Those colonies which show no desire to swarm throughout the season, might better be let alone, as they are the ones which give us the hundreds of pounds of surplus—the exceptional yields.

We can tell as well in "shook-swarming" which queens to breed from as in natural swarming. We may as well select the best yielders, and, if those colonies should have been shaken, it is known that they *would have swarmed*, naturally, anyhow, and we can lay our plans accordingly.

THE SWARMING INSTINCT SIMILAR TO BROODINESS IN FOWLS.

Let us not despair of ultimately perfecting a strain of bees which will be practically non-swarmers. That end will certainly be accomplished some day by diligent and persistent effort at selection in breeding. We know that the primary instinct of broodiness in fowls has been practically eradicated, and we know that the swarming instinct can be eradicated. Although one is a fowl, and the other an insect, their mode of reproduction is the same, and broodiness in the one is identical with swarming in the other.

Probably but little progress has been made by apiarists toward the wanted goal, yet we have been giving careful attention to that phase of bee-keeping for only a comparatively short time. It will require years to fully accomplish the end sought. By practicing in and in breeding as much as possible, much greater progress could be made than by infusing new blood; unless that new blood is from strains which are being bred along the same lines, and equally disinclined to swarm. Were it practicable to use the wonderful productive power of the bee to its fullest extent, much greater progress could be made; but we are practically limited to one change of queens per year, as we are unable to judge as to which colonies are the least inclined to swarm until after the main swarming season; and that usually comes only once a year. Yet this ought to be enough for considerable progress.

THE FOLLY OF NOT ATTEMPTING TO CHANGE THE INSTINCT OF BEES BECAUSE IT IS "AGAINST NATURE" —OR GOD'S WILL.

The thought that the Divine architect has so willed it that bees should swarm, as one writer so persistently deigns to remark, should have no influence upon us who are endeavoring to eradicate swarming. To entertain such a thought would be suicidal to our purpose, and diametrically opposed to all advancement; not only in our line but in all others. Let it be relegated to the dark ages.

OSAKIS, Minn., Oct. 6, 1904.

Editorial

The Reason most men don't accomplish more is because they don't *attempt* more.

The Greatest thing any man ever did is to "wake up" and do something, be something.

Gleanings has inaugurated a Southern department to be conducted by Louis H. Scholl, who has had practical experience both with the smoker and the pencil.

F. P. Clare, Woodburn, Ills., is in need of the Feb. and June issues of the Review, for 1904, to complete his file. Any one having either of those issues, together with a willingness to spare it, will please write to Mr. Clare, or send the copy of the Review.

Dr. Miller is still objecting to the use of the term "shook-swarms." He would say "shaken-swarms." He is a better grammarian than I am, and may be correct, but here is the way it looks to me: This is a case of using a verb as an adjective, and it seems to me as though it would be allowable to use that tense of the verb which is the most euphonious.

"Give me the man who can hold on when others let go; who pushes ahead when others turn back; who stiffens up when others weaken; who advances when others retreat; who knows no such word as 'can't' or 'give up;' and I will show you a man who will win in the end, no matter what opposes him, no matter what obstacles confront him."—*Orison Swett Marden, in Success.*

Three Editors (Gleanings, American Bee Journal and Review) expect to be present at the coming Michigan convention at Grand Rapids.

Circulars from a sugar-house in California have been sent to me by several subscribers. These circulars do contain testimonials from bee-keepers who have used sugar for feeding their bees in dry seasons. This explains how one man testified to the benefit of feeding the sugar "the entire season." It was to keep his bees from starving.

"Baby Nuclei," is the title of a very neat little pamphlet gotten out by "Swarthmore," of Swarthmore, Penn. It is exceedingly well-written, and shows up, more clearly than anything that has been written, the possibilities of modern queen rearing by the use of the small, or "baby" nuclei. If you are interested, write for a copy to E. L. Pratt, Swarthmore, Penn.

"Bee Pranks" is the name of a very attractive, readable little booklet gotten out by the G. B. Lewis Co., of Watertown, Wis. In this has been gathered together fac simile accounts taken from newspapers and trade-journals. All the swarming scrapes, the stinging rampages, the laughable incidents, the queer "pranks" about bees that have been published in a long time have been gathered together in this book. The picture on the front cover is—well, it's a "dandy." The price of the book is ten cents, but it will be sent free to any one who will send the Lewis Company the names and addresses of five bee-keepers.

Lawsuits of an apicultural character, or, rather the expenses incurred therein by members of the National Association, will not in the future be borne wholly by the Association—one-half the expense is all that will be paid by the Association. This is a step in the direction of cutting down the expense in petty litigation arising from neighborhood quarrels.

A Flying Machine, something that could, with the power in itself, rise from the earth, propel itself, and be steered up, down, and sidewise, is something that I have always believed would yet be invented; and it seems that two Ohio young men have been successful; a description of their success and the machine appearing in Gleanings for Jan. 1st and 15th. Of course, this is now nothing more than a scientific toy, so to speak, and not of any practical use, but many things of wonderful utility have had their beginnings in a less encouraging manner. Say, wouldn't a flying machine be just the thing for use in visiting out-apiaries ?

Foretelling when there will be crop of white clover is explained at length in Gleanings by Mr. Virgil Weaver, of Washington, Iowa. It all depends upon the rain fall, whether the young plants are nourished, or whether they are killed by the drouth. Mr. Weaver says the winter has nothing to do with it. Nomatter whatthe winter weather, the plants will be there in the spring ready to do business, if they were there in the fall. All this may be true, but there is still another important factor, and that is the kind of weather we have when white clover is in bloom. Bloom does not always furnish nectar. I have seen the fields in June so white with clover-bloom as to remind one of a light snow storm that had just passed, yet the bees were actually starving.

Mr. Stachelhausen calls my attention to two errors in his article of last month. He has used divisible-brood-chamber hives for 25 years, instead of 15 as given in the article. On page 9, line 20, second column, 500 pounds of surplus ought to read 5,000 pounds.

Advertisers cannot exercise too great care in the preparation of their ads. As a rule, an advertisement ought to be changed each issue, and some thought given to its preparation. Although Dr. W. B. House, the Yellow Zone man, has a whole page, he changes it each issue, writing the advertising himself, and putting into it that peculiar personality, directness, candor and honesty that are so convincing. If I did not have his remedies in the house, his advertising would make me feel as though I *ought* to have them, and that is a good test of advertising.

Candied Honey, cut up into "bricks" of one pound each, wrapped in paraffined paper, then in a stronger paper, and, over all a fine white paper printed in gilt as daintily as that found on a box of bon bons, is being put up and sold by the A. I. Root Co. The wrappers are appropriately printed with an explanation in regard to the candying of honey, instructions how to liquefy the honey, etc. Ernest Root has sent me a sample, and he writes that the grocerymen who are handling them find that they outsell everything in the line of honey; comb honey, that in bottles, or anything else. I think the daintiness with which the package is put up has much to do with its sale. If you have some candied honey, and are interested in selling it in this way, better send 30 cts. to the A. I. Root Co. and ask to have a package of this honey sent to you by mail. Remember that 20 cents of this money will be needed to pay the postage.

Encouraging Farmers to keep bees is something that bee-keepers should look at from both sides. Here is one side to which my friend Harry Lathrop calls attention. He says: "In view of some of the things that came up at the St. Louis convention, I would like to ask a question or two through the Review. I am selling quite a lot of my extracted honey, crop of 1904, to well-to-do farmers in this vicinity; and I would like to ask if I would not be foolish to try and persuade each of these farmers to engage in bee-keeping so as to produce what honey he needed? What object can I have in supporting a journal having for its object the depriving me of these customers? Besides, these farmers are mostly in the live stock business, quite heavy feeders, and I hold they would be money out if they began dabbling in bees. When they want honey they can buy it of me at about one-third the price of creamery butter."

The Michigan State Convention.

The Michigan State Bee-Keepers' Association will hold its annual convention Feb. 23rd and 24th, at the Eagle Hotel in Grand Rapids. The Michigan dairymen will hold their convention at the same time and place, and the bee-keepers can take advantage of the reduced rates given the dairymen. When buying your ticket ask for a certificate on account of the meeting of the State dairymen's meeting. The Secretary of the dairymen's association will sign this certificate, which will enable the holder to buy a return ticket at one-third fare. This is done with the knowledge and consent of the railroads. Several associotions often meet in this way, and the Secretary of one association signs all of the certificates. The Eagle Hotel is located at 65 Market St., corner of Louis street. It will give a rate of $1.50 a day, and furnish a room free for holding the convention. Grand Rapids is located in a good honey producing district, easily accessible from the northern, southern and middle parts of the State, and a large crowd ought to be present. The editor of the American Bee Journal and of Gleanings have promised to come if it is possible. Editor of Review will be there.

100,000 Copies of Root's A B C of Bee Culture have been published. There are few books that have attained such a circulation as this, and none that have even approached it in the apicultural field. It is phenomenal. There are several reasons for this, but one most important factor is the up-to-dateness of the book. The type for the entire book is kept standing, and the large sales allow of frequent editions; and this, in turn, allows frequent revision. There is probably not a year passes that does not witness a complete revision. For instance, in this latest edition, I notice several things that were brought out in the Review in the last year. Then there is another point. The keeping of the matter in type allows of the printing of new editions with no expense for composition, except that necessary for the revision. This saving of expense, coupled with the advertising facilities of the publishers, allows the selling of the book away below the usual price. It is really a $2.00 book, but sells for only $1.20 postage paid. Address the A. I Root Co., Medina, Ohio.

Prizes on Honey at the Coming Michigan Convention.

As an encouragement to attend the coming State convention of bee-keepers at Grand Rapids, and, at the same time, furnish some valuable object-lessons to some of the members, the following prizes have been offered:

For the best ten pounds of comb-honey, quality and manner of putting up for market to be considered, A. G.

Woodman, of Grand Rapids, representing the G. B. Lewis Co., of Watertown, Wis., will give $3.00 worth of supplies; for the second best lot, a Bingham, brass, smoke engine worth $1,75. Mr. Woodman also offers similar prizes for the best ten pounds of extracted honey, quality and manner of putting up for market to be considered.

M. H. Hunt & Son, Bell Branch, Mich., offer $3.00 worth of supplies for the best ten pounds of extracted honey, quality and manner of putting up for market to be considered, a jumbo, Corneil, brass smoker as a second prize, and a Bingham honey knife as a third prize.

The A. I. Root Co. offers a complete Danzenbaker hive, nailed and painted, ready for use, value $3.10, for the best ten sections of honey produced in a Danz. hive; for the second best lot, a copy of the A B C of Bee Culture, worth $1.20; for the third best, one year's subscription to Gleanings, worth $1.00.

In addition to the above, the Bee-Keepers' Review will give a year's subscription to the Review, to every man who wins any of the other prizes.

It will be seen that a bee-keeper with a nice case of comb honey, or ten pounds of fine extracted, might, considering the reduced rates on the railroad, come 100 miles and receive prizes enough to pay all of his expenses. Come and bring your honey. If you don't bring it you may be chagrined to see a poorer lot than yours take first prize.

It may be of interest, also, to know that the National Biscuit Co. will make a display of their goods that are made with honey.

Through an oversight, Bro. York, of the American Bee Journal, received no invitation to contribute to the list of prizes, and when publishing the foregoing, he called attention to the fact that he had received no invitation. I at once explained the matter, and invited him to contribute, when he very courteously made the same offer as that made by the Review, viz., a year's subscription to every man who wins one of the other prizes.

Tests Regarding the Purity of Beeswax.

At the Northwestern convention, Mr. C P. Dadant gave three tests for discovering adulteration of beeswax. The first is called the heat test, and is based on the fact that other substances melt at different temperature than that at which wax melts. Beeswax melts at about 140 degrees, while ceresin melts at a temperature several degrees lower. Mr. Dadant's plan is to attach a piece of beeswax of known purity to a round (dairy) thermometer, also a piece of wax that is suspected of being adulterated. Both pieces ought to be of the same size. The thermometer and pieces of wax are then suspended in a wide-mouth jar or bottle, and set upon a stove. Careful watch is then kept to see at what degrees the two samples melt. A variation of several degrees shows conclusively that the suspected sample is adulterated. Combs built from foundation made of wax adulterated with some substance that melts at a lower temperature than beeswax will likely break down in hot weather.

The next test mentioned by Mr. Dadant is the specific gravity test. Alcohol, which is lighter than water, is mixed with water until a piece of beeswax will sink very slowly (almost remain standing where it is placed) then a piece of suspected beeswax, of similar size and shape is placed in the mixture. A very slight percentage of paraffin will cause the wax to float, while a large percentage will cause it to pop up out of the mixture, as an iceberg stands up above the sea.

The next test is called the saponification test, and is not generally known.

With concentrated lye and hot water make a strong lye. Into this pour melted beeswax, and stir it up, when real soap will be formed having a strong, disagreeable odor. Beeswax is an animal secretion, might even be compared to animal fat, and will unite with lye in making soap, the same as will grease. Paraffin is of mineral origin, and when added to the lye will not unite with it, but remain upon the top and cool in a nice, hard cake.

Mr. Dadant mentioned a very simple test that would, at least, indicate the presence of tallow in wax. Draw the finger nail over the surface of the cake in such a manner as to scratch a small furrow. In pure wax the surface of the furrow will show ripples or waves, while in the tallow-wax these corrugations will be absent.

By the way, Prof. Wiley, U. S. chemist, the man who started the story about artificial comb, now states, in the Rural New Yorker, that the manufacturers of comb foundation in this country are using paraffin to adulterate their product. It is difficult to conceive what defense can be made for the Professor. Buying wax as they do from so many sources, the manufacturers are compelled to exercise great care, to test every shipment, and, even then, a *very slight* adulteration might pass undetected. Perhaps a chemist might detect it; possibly the Professor might find a *trace*, in some samples of foundation, but to assert that our manufacturers of foundation are adulterating their product does them a rank injustice, and creates more prejudice in the minds of consumers of honey.

Hives and Supers.

A subscriber writes that he wishes to begin bee-keeping next spring with three or four colonies, and gradually build them up into an apiary, making them pay a profit as he goes along. He is especially interested in hives and supers, and wishes to know what kind I would advise him to adopt. He expects to make his own hives. He wishes the inside dimensions of a ten-frame Langstroth hive. The Langstroth frame is 9⅛ inches deep and 17⅝ long. There should be a ⅜ space all around the frame, between that and the hive, hence, the hive should be 9½ inches deep, and 18⅜ long, inside measurement. Usually, an inch and a half is allowed for each frame, or comb, hence, for ten combs, there should be 15 inches of space. For a bottom board I should use a plain board, cleated at the ends to prevent warping, with strips half an inch thick, nailed around the upper edges of the bottom board on the sides and back end, to raise the hive from the bottom board. My preference is also for a flat cover, even if it has to be made in pieces and covered with tin, iron, or painted canvas. As I have frequently explained in the Review, I should use plain, all-wood frames. If producing extracted honey, I should use the same frames and hive bodies for supers as are used for the brood nests. If working for the production of comb honey, I should use plain sections, and fence-separators. These can not well be made without machinery, and must be bought of some manufacturer. The beginner ought to read the text books and journals, and will then be able to decide many just such questions as those I have now answered.

The Price and Aims of the Review—Bee-Keeping as a Business.

I believe I made mention, last month, of my sending out circulars to those who had received samples of the Review, asking them why they had not subscribed. Some of those letters are decidedly interesting. I received one from a bee-keeper in Ontario, and, as it brought up several points upon which I wished to make an explana-

tion, I asked permission to publish it. He replied that I might publish the letter, if I would withold his name. I won't give the entire letter, but here is an extract.

WHY THE REVIEW IS HIGH IN PRICE.

"I would like to take the Review, as I can see that you are doing your very best to secure good writers, but I don't feel that I can afford to pay $1.00 a year for a *monthly*."

I have several times explained that the Review, having no connection with a supply trade, or a queen trade, or a honey trade, must be published at such a price that there is a profit in the paper itself—not only a profit but a *good* profit. Still further, the Review appeals especially to the *business* class of bee-keepers; it might almost be called the specialist's journal. Class-papers, those devoted to the interests of some *one* class of people, must, from necessity, be limited in circulation, and, consequently, higher in price. Many papers of this class help out by dealing in supplies, when the papers, to a certain extent, become circulars, advertising their supply trade. Such papers are, to a certain degree, handicapped; their readers feeling that they may be biased by self-interest. The Review prefers to be independent in this respect, and to have no interests to serve except those of its readers; and, as the price must be high, I realize that the only hope for success is in making a paper so thoroughly adapted to the needs of the class for which it is designed, that it will be bought *regardless* of the price.

WHY LOW CLUBBING RATES ARE NOT OFFERED.

Continuing, my Canadian friend says:—

"I notice that you do not allow your paper to be clubbed in any of the lists that I have looked over, whereas, almost every other paper, whether it is a magazine, a political paper or an apicultural, even including Gleanings, is clubbed with other papers at a reduction that puts them within the reach of all. I have been looking, for the last four years, to see your paper falling into line, in this respect, with all the popular papers of the day."

What difference does it make whether a man offers his journal direct, at half price, or allows some other fellow to do it for him? Did you ever stop to think how this clubbing business started? Years ago papers began offering low rates for clubs, the rate varying according to the size of the club. In those days there were no club agents, as we now have them. Instead, some subscriber went around among his neighbors, presenting the claims of his favorite paper, thus securing subscribers that would, otherwise, never have been secured. For doing this work the publisher could well-afford to pay the commissions offered. Finally, some man saw in this an opportunity for speculation. He could, by advertising, secure many subscribers, for all of the leading papers, from all over the country. He could thus secure enough of any one of them to be able to send in a club that would entitle him to the lowest clubbing rate. He divided his commission with his customers, in order to secure their custom. From this sprang the club agency business. Suppose a journal, the Review, for instance, has 4,000 subscribers. These men have read it until they know they can't afford to do without it, it is invaluable to them, they will send their dollar for it year after year; now, what earthly good is it to the publisher to allow some subscription agent to offer it for 75 cts. ? The few cents saved by each subscriber does not cut much figure, individually, but, collectively, with the publisher, it makes all the difference between success and failure. One year ago I spent a day visiting one of the largest club agents there are in the country. I went there purposly to talk over this matter of clubbing the Review with other journals. If there was any advantage in it, I

wanted to know it; and I told him frankly why I came. After going over the whole matter, he advised me, most emphatically, not to cut the price of the Review. He said that the majority of publishers who were offering these low clubbing rates would be very glad to get out of it if they could, but having once offered them, they did not *dare* to withdraw them. "Now that you are out," he said, "keep out. If you want to make clubbing offers, offer some other journals that make *low* offers, in connection with your own, but keep up the price of the Review if you know when you are well off. You may think this strange advice from a clubbing agent, but I have seen the inside workings of the game. Then there is another thing, the lowering of the price of a journal, does much to lower its standard; its publisher begins to cut corners, and try to save here and there and so it goes."

THE "PHANTOM" OF BEE-KEEPING.

Referring once more to my friend's letter, I quote the following:—

"I have been keeping bees since 1897, and now have 56 colonies. During most of that time I have taken Gleanings, and I am indebted to the journal for much that I have learned; and yet, Mr. Hutchinson, I sometimes doubt if starting into bee-keeping is the best step that a man can take. Especially do I feel this way when I find the old veterans still saying, after all the advancement that has been made, that the dependence upon this business, as a sole means of support, is a phantom."

My dear Brother, as I understand it, it is not the veterans, at least, not the veteran *specialists*, who complain that bee-keeping as business cannot be depended upon for support. The men who complain are those who are trying to run two or three other kinds of business in connection with bee-keeping. You hear no such complaints from Crane, Coggshall, Elwood, Townsend, Coverdale, Gill, Stachelhausen, Hyde, Mercer, Mendelson, McIntyre, and scores of others who might be mentioned, men who have cut loose from all hindrances, secured good locations, stocked them with good strains of bees, in *large numbers*, and made money. I expect that there are many men keeping bees who could have done better at something else, and the same might be said of any profession. A man should have a decided taste for the business, a genuine love for it, should learn it thoroughly, then get a good location. Not every location is adapted to bee-keeping as a business, and we might as well admit this first as last. Then there must be a good strain of bees, and *enough of them*. Excuse me for emphasizing this point over and over again, but it seems so difficult to arouse bee-keepers to its importance.

However, there does, occasionally, come to me a crumb of comfort in my efforts to show bee-keepers the advantage of specialty. Here is one from Massachusetts.

"Four years ago I was disappointed in your paper, and told my wife that I should order it discontinued when my time was up. Then there came an editorial on specialization that opened to me a new path, and was worth to me more than the price of the Review for many years Now I find in every issue something that I am glad to know."

Here is another from Wisconsin:—

"In my early years of bee-keeping I didn't like the Review. It was too deep for me, and discussed things about which I cared very little. *Now*, I would pay $5.00 a year for it before I would do without it."

A subscriber in California says:—

"Your paper is very fascinating to read—indeed, I fear that you are too optimistic, that you take too rosy a view of things, and the beginner might be mislead by some of the articles."

Yes, I *am* optimistic in regard to bee-keeping if bee-keepers will only apply the same common sense ideas to their business that are applied to all other businesses. Bee-keeping is now slowly passing from an auxiliary, or subsidary pursuit, to that of a business

of itself, and if a man will only find a good location, stock it with a good strain of bees, and adopt methods that will allow him to keep bees in large numbers, there is no reasonable doubt of success.

A Modern Bee Farm.

My friend, S. Simmins, of England, the inventor of "Direct Introduction of Queens" and "Simmins' Non-Swarming System," has gotten out a new edition of his book "A Modern Bee Farm." He has added a sub-title, or, to be exact, he has, on his title page, made "A Modern Bee Farm" the subtitle. The whole title on the title page is "£300 per Annum from 30 Acres, or a Modern Bee Farm." One feature of this book is to show how advantageous it is to combine bee-keeping with poultry raising, stock growing, fruit culture, etc., or, rather show how these pursuits may be combined to advantage, and how he has made the above mentioned sum out of such a combination. It is possible that, with his environments, he is doing the best that he can do, but the conditions are different here in many parts of the United States. For instance, in his preface he says he can hold out no hopes that bee-keeping alone will support a family, at least in that country. I am not acquainted with all of the conditions in England, but in this country, if the right location is secured, there is no difficulty in supporting a family on bee-keeping, and making some money besides. I will not, however, discuss this point at length here, but begin at the beginning of the book and notice those things that seem to me to be of particular interest to bee-keepers in this country.

HOW TO LEARN BEE-KEEPING.

In learning bee-keeping Mr. Simmins urges most earnestly that the beginner work at least two years in some established apiary. Time and money are thus saved, and the solid experience gained is far more certain to put the young bee-keeper upon the right road than half a dozen years spent in building up a small apiary.

HOT WATER APPLICATIONS IN CASES OF SEVERE STINGING.

The use of cold water should be avoided in the treatment of bee stings. On the contrary, warm applications, as hot as can be borne, will reduce the swelling and irritation in a natural manner by relieving the congested blood, and sending it coursing through the veins; thus diffusing and thinning the poison; while, at the same time, the pores of the skin are fully opened, which aids in giving relief. Cold causes congestion, inactivity and death —warmth causes movement, circulation and life. In cases of severe stinging it is well to remember this.

HOW YOUNG BEES HELP IN SECURING A HARVEST.

It has been argued, sometimes, that bees hatching out so late as not to be old enough to take part in gathering the harvest are of no value, but Mr. Simmins calls attention to the fact that they do the work of the hive, thus releasing for outside labor bees that would otherwise be compelled to remain at home.

ONE SECRET OF SUCCESSFUL HONEY PRODUCTION.

I doubt if our author calls attention to anything of greater importance than that of always maintaining the proper proportion of adult bees to the quantity of brood and young bees. Of course this idea is not new, but it is not sufficiently recognized and acted upon. If the conditions are such that the queen is able to produce the full working force *before* the honey harvest begins, then there will be a good harvest gathered. If she is unable to breed up to her full capacity until *after* the harvest has commenced, the working force is unable

to do much more than keep the rapidly increasing brood nest and large population of young bees supplied with food and attention. With such an undue population of consumers on hand, the queen has her own way, and her combs become one mass of brood. The colony which gains the proper balance of population at an early date, on the contrary, has much reduced its brood nest by storing some honey and large quantities of pollen. This is the colony that will give the heavy surplus, and the other can never compete with it, even though it have twice the population. Mr. Simmins might also have said that it was equally detrimental for a colony to become too populous too *early* in the season. The point is to have the right proportion of workers, young bees and brood, at the opening of the harvest. Our author proceeds to give some of the reasons why the right proportion is not reached early in the season. The queen may be stimulated to lay too late in the autumn, hence be slow to begin in the spring. The hive may be short of stores, or, on the other hand, so overloaded that there is not the room needed for breeding. Perhaps the lack of protection in the spring prevented the breeding so much needed. Old queens are a fruitful source of trouble in this direction. He would retain no queen that had seen her second summer. One way to provide that the queen will use her best powers before the opening of the season is to unite two stocks in August, if they are not up to full strength. Another plan is that of uniting two stocks about ten days before the opening of the harvest; thus providing that the number of workers shall presently be in excess of those required to attend the young.

PLANTING AND MOWING HONEY PLANTS.

Our author indulges in quite a lot of theorizing in regard to planting for honey, and what may be expected from it. He assumes that white clover yields ten pounds of honey per day, per acre, which I think is far, far above the average. He then proceeds to theorize that by cutting the clover so as to have a few acres blooming at different times, the season may be prolonged, So far as I have been able to learn, a plant thrown out of its usual time of blooming does not furnish much honey. I once had a field of alsike pastured to make it bloom late, but there was not much honey gathered from the late bloom. Mr. Simmins would also sow sweet clover and divide it up into plots, cutting the different plots at different times in order to have different plots in bloom at different times. Even if the clover would yield honey at these different seasons, there would not be room enough on a 30-acre farm to raise clover enough to amount to anything in the way of surplus when divided up into plots. I fear Mr. Simmons does not realize the amount of flower-blooming area that is necessary to produce a crop of honey. One rather amusing feature is that he quotes Dr. Gandy's catnip fields (?) in support of what may be done in the way of planting for honey.

SOME RADICAL VIEWS ON FOUL BROOD.

Mr. Simmins' views on foul brood are decidedly the opposite of those of the majority of thinkers and experimenters on the subject. In short, as I understand him, he does not look upon it as a germ-disease, or, rather, he regards the germs as a result of the disease instead of the cause of them. I am not positive that these are his exact views, in fact, he does not make it positively clear in regard to *exactly* what his views are on this point. He does believe, however, that foul brood has its origin in a way that is different than most of us have been led to believe. He says "The origin of foul brood is found in a fementing mass of neglected, dead, animal matter and excretions, combined with the presence of a weakened colony, breeding and feeding amongst, and warming up to blood

heat such neglected matter, which they, in a deteriorated state, are unable to remove." Again he says "We have to admit that every colony carries within itself the primary seeds of disease which lie dormant while a natural vitality is maintained, and sanitary condition is maintained." To me there is an apparent inconsistency in Mr. Simmins' views, as he admits that the disease is contagious and it can be communicated by robbing, carelessness on the part of the bee-keeper in working from an infected to a clean hive, mixing diseased combs and appliances with those of clean stock, and the feeding of diseased honey. In fact, all of the rest of his argument and chapter on foul brood seem to rest upon the germ theory. He calls attention to what is probably a fact, viz., that foul brood spores may be destroyed by causing them to germinate where such germs find no congenial soil, or where a suitable antiseptic immediately acts upon them. In the McEvoy treatment, when bees are shaken from the combs and left a few days to build comb, then the comb cut out, he does not think that the efficiency in curing, or getting rid of the disease, is in the fact that the bees have consumed the diseased honey, but that the germs have in the meantime germinated without the means of reproduction.

He says that a colony with young bees, left without a queen for three weeks, will clean out the combs so completely that brood may then be reared in them with no danger of infection. Bees with a queen will not do this. Any spores left in the hive are bound to germinate where there is no soil to support them, therefore their existence is terminated. I am giving these views, not because I can endorse them, nor because I am prepared to prove to the contrary, but that my readers may have the benefit of knowing what this man thinks. In the meantime, there is much comfort in knowing that we know methods of combating the disease.

THE SIMMINS NON-SWARMING SYSTEM.

Mr. Simmins says that swarming is the result of completion and overcrowding in the brood nest. His method of preventing swarming is that of furnishing an empty space beneath the brood nest; he asserting that no colony in a normal condition attempts to swarm unless it has all of its brood combs completed. He says that there *might* be swarming if the empty space is at the back side of the brood nest, but if the open space is beneath and at the front, next to the entrance, there will be no swarming. Mr. Simmins keeps the bees busy building comb in this empty space, this comb being removed and used in the supers above the brood nest.

AN UNCAPPING MACHINE PREDICTED.

Mr. Simmins predicts that the time is surely coming when the uncapping of combs for extracting will not be done by hand, that hand work will be superseded by some simple mechanical process. For this reason he urges the adoption of a plain, simple, ⅞ frame.

THE SECRETION AND UTILIZATION OF WAX.

Mr. Simmins made some quite elaborate experiments to determine the number of pounds of honey consumed in the secretion of one pound of wax. He went so far as to build a house 50 feet long, by ten feet wide, and covered it with calico so that the bees might fly in the enclosure, yet could not escape. They had access to pollen and water, but no brood was allowed. The temperature was rather low, which was against the experiment, but he found that not more than 6½ pounds of honey were required in the production of one pound of wax.

Mr. Simmins believes, and I agree with him, that, during the working season, the secretion of wax is continually going on, and if there is no way of

utilizing this wax it is wasted. With his system of management, this involuntarily secreted wax is used in building comb below the brood nest. With the ordinary hives and management, wax may be produced in quantity, where the apiary is managed for the production of extracted honey, by always having some empty frames in which the bees can build combs. Mr. Simmins says that one pound of wax, costing about 30 cents, as it is secreted by the bees and by them built into combs, will fill eight brood frames; one pound of foundation will cost 40 or 50 cts., and to this the bees may add considerable of their own production before the combs are completed. Here is a point well worth considering.

SPECIALTY VERSUS MIXED BEE-KEEPING.

In closing his book Mr. Simmins makes a special plea for mixed bee-keeping. He says "Shall your occupation be bees alone? No! Poultry alone? NEVER! Fruit alone? Well hardly." Then he goes on and urges the keeping of bees, poultry, and cows, the raising of fruit and the cultivation of a garden. As I said at the outset, such a course may be best for Mr. Simmins, with his surroundings, and it is *possible* that it may be best for some bee-keepers here in this country, for those, if any there are, who can't branch out and keep more bees, but for most of us I think such a plan far less profitable and desirable than specialty. Suppose a man has 50 colonies of bees. He finds that he has time to do more work than is required by these 50 colonies, and he adds 50 hens. Now, let me ask, instead of adding the poultry, why not add another 50 colonies of bees? If the man with the 50 colonies, who has added the 50 hens, still finds time hanging on his hands, he *can* add a cow and a garden, but why not add another 50 colonies of bees? If the locality becomes overstocked, then why not establish an outapiary? A man should exhaust the posibilities of one business before taking up another.

EXTRACTED DEPARTMENT.

MOVING BEES SHORT DISTANCES.

It is Easily Accomplished with Small Loss of Bees if You Only Know How.

It frequently happens that it is necessary, or desirable, to move an apiary a short distance, so short a distance that it is not beyond the range of flight to which the bees are accustomed, and, unless certain precautions are observed, there may be some loss of bees, or depletion of some hives to the overflowing of others. The great point is to move the whole apiary at one time—but I won't tell the man's story so long as I am going to let him tell it himself. His name is C. F. Bender, he lives in Illinois, and he told his story in Gleanings, and here it is:—

I see so many questions asked in regard to moving bees that I thought I should like to give my experience in that line. While the requirements are simple, yet some of them are frequently overlooked, and a failure is the result. In the last seven years I have moved five whole apiaries for myself and others, the distance in every case being under a mile. Two of the apiaries were my own, consisting of a hundred colonies, and were moved a little over fifty yards, in warm weather. In all this number, less than a gallon of bees went back to the old stands.

I think March is the best month in the year for moving an apiary. If you have work of this kind to do, put it off until winter if you can If you are obliged to change the location in warm weather, leave the hive-entrances open while on the road. This may seem like a dangerous matter to one who has never tried it; but if the road isn't

too rough it is perfectly safe. Take a small load, not over a dozen colonies. Let one man watch the hives with a lighted smoker, and another do the driving. You have no idea how easy it is to smother bees by shutting them up in warm weather, until you have killed a few stands that way. If the temperature is below 40 degrees it will be safer and easier to shut the bees in.

Don't leave anything but the bare ground at the old location. If the distance is under a mile, a large number of bees will usually go back to look around; but if they have marked the new home properly they will always return. If they are to be moved in warm weather it should be done very late in the afternoon, so they will have no chance to fly until the next day. If it is done in cool weather, leave them shut up until sundown. Put them on the new stands; leave them alone until some of them begin to fly, then go around and give everyone a good smoking so they will know there is something doing. Then set up a board in front of each one so that a bee can not easily get out without bumping its head. I believe this is the most imporant part of the work, but it seems such a little thing that it is often neglected. It causes them to notice that there has been a change, and to mark the spot before leaving it. Many of them will go back to the old stand; and if there is a hive there, or anything that looks like one, they will enter it and forget all about the new location. If there is none they seem to remember that there is one more chance, and that is the place they have just come from.

Commenting upon the foregoing, Editor Root says:—

We have had reports before, going to show that the entrances of the hives may be left open; but when the colonies are first loaded the bees should be smoked; for at the first "jounce" of the wagon some bees might offer attack.

Other reports, too, have shown that, when bees are moved, there should be no hives left at the old location. A beginner trying the plan here described should proceed with extreme caution.

I generally advise that, where bees are to be moved less than a mile, the moving be deferred till early in the the spring, before the bees have had a chance to fly. If they have been in the cellar, all the better; for they can be put anywhere, and will stay where they are put.

The first year that I kept bees, I went after them in the winter, and brought them home in a sleigh. There were six colonies, and, after getting them home, I packed them in straw, in a big long box standing east of the house. When I unpacked them in the spring, two colonies were dead. The other four came through all right and prospered; but, for various reasons, I found it necessary to move them to the other side of the house. One morning in April, before a bee was astir, I picked up the hives and carried them to the opposite side of the house. When they began to fly there was quite a commotion around the hives, as the bees were marking their new location. There was also quite a commotion around the old location, which, by the way, was left simply a bare spot of ground. These two commotions probably reached their height about ten o'clock. By noon, only a few straggling bees were seen hovering over where once stood their home. Not a bee ever *alighted* on the old location, and I doubt if a teacup full of bees failed to get back to the hives. To all appearances the colonies lost no bees.

THE INVERSION OF CANE SUGAR.

A Process That Takes Place When the Sugar is fed to Bees.

Bro. Abbott, of the Modern Farmer, and myself have sometimes sharply disagreed, but that does not prevent me from admitting that he is making a very creditable paper. I read and admire many of the editorials, but, like some of the rest of us, he occasionally "makes a break," as in the following from his January issue:

SUGAR SYRUP IS NOT HONEY.

Editor Hutchinson of that excellent but sometimes slow-going magazine,

the Bee-Keepers' Review, for reasons not clearly apparent to the general public, but perfectly clear to those of us who remember that he was once an enthusiastic advocate of what was then wrongly called "sugar honey," seems to be unduly troubled over what he is pleased to call "reckless assertions." The last number of the Review contains quite an editorial on the subject, which evidently was intended as a fling at the editor of the Modern Farmer. However, we are not greatly troubled about it, as this is not the first reckless "fling" that has come from the same source. As the thrusts have acted as a boomerang, and have injured the flinger more than they have any one else, we would pass this one by if it did not mean so much, and if we did not fear that the public might not see clearly the real facts in the case, and thus an injury might be done to our industry. We have asserted a number of times, and we assert again, that sugar syrup fed to bees and stored in the combs is not honey, and bears no more relation to the honey produced by bees from the nectar gathered from flowers and stored in the combs, than charcoal or graphite does to a diamond, and we defy the editor of the Review to controvert this assertion. A young chemical student who has only learned things from the standpoint of chemistry might say that charcoal or the pencil we write with is the same as a diamond, but the most veritable ignoramus in the land would not exchange the diamond for charcoal, or claim that he could manufacture a diamond out of powdered charcoal by mixing it with paste. The substances are identical from a chemical standpoint, but men cannot make diamonds because there is lacking a certain "vital energy" which makes things what they are and differentiates them from all other things in the making. Dr. Wiley has never said that sugar syrup stored in the combs by bees becomes honey, as one might infer from the article. Editor Hutchinson's talk about the "positive knowledge of scientists" is mere rot, and there is nothing in it. No scientist has any "positive knowledge" that bees can store sugar syrup in the combs, and in the process make honey out of it, and the sooner editors stop talking that kind of nonsense the better it will be for our industry. That bees make some chemical changes in the nectar of flowers before, or after it is stored in the combs, no one denies, but none of the learned gentlemen whose names appear in the article referred to know exactly beyond a doubt just what this change is, and exactly how it is made. Professor Cook has theorized as to how it is done, but the late Prof. Cheshire, who was equally as well equipped as Prof. Cook, and from whom Prof. Cook got a good many hints, if nothing more, on the subject of bees and honey, said that it is not that way at all. So there you are! and we shall go on saying that bees do not, and cannot, make "honey" out of sugar syrup.

Although probably not so intended, the title to the foregoing is misleading. No one has *said* that "sugar syrup is honey." The point is just this: When bees handle cane sugar (and it makes no difference where the sugar comes from, the sugar barrel or the nectar of flowers) they change the cane sugar to grape sugar, or to be more exact, into a mixture of dextrose and levulose. This same change takes place when we eat cane sugar. The saliva changes the cane sugar into grape sugar. This is the first step in the direction of digesting cane sugar, hence, in eating honey instead of cane sugar, the system is saved from the taking of this step. Bro. Abbott admits that "bees make some chemical changes in the nectar of flowers before, or after it is stored in the combs." Then why deny that they make similar changes in sugar syrup in handling it? Perhaps I have misunderstood Bro. Abbott. Perhaps he does not intend to deny that the bees make this change, but, after the change has been made, he thinks the product is not *honey*. Perhaps that is his ground. If so, then I can only say this this is a point upon which good men differ.

I am surprised to see Mr. Abbott say that Prof. Cook and Mr. Frank Cheshire differ regarding the manner in which bees effect this chemical change. Prof. Cook, in speaking of this change, says "it is doubtless accomplished through the aid of the saliva —that from the racemose glands of the

head and thorax." (See page 171, 1902 edition of the Bee-Keepers' Guide.) Cheshire says, on page 378 of his second volume, "The secretion, or nectar, of most blossoms consists of cane sugar, and is inverted, by the addition of salivary juices into dextrose and levulose." On page 581 of the same volume he says "The blossoms whence the bees gather nectar yield mostly *cane* sugar, (italics Cheshire's) but this undergoes inversion through the action of the salivary secretion of the bee, and the two forms of glucose before mentioned (dextrose and levulose) are produced."

It is universally admitted that the nectar of flowers is largely cane sugar and water with the addition of a small amount of flavoring material. Now, in all seriousness, what difference does it make, *aside from the flavor*, whether the cane sugar that the bee gets is that extracted by the blossoms from the juices of plants, or that extracted by the hand of man from the juices of plants? That point of flavor is, of course, important, *very* important, but I believe it is the only real difference between floral honey and that produced by feeding the bees sugar. Chemists are unable to distinguish the difference between the two. I know, as Bro. Abbott says, two substances may be alike chemically, yet differ in some manner. On the other hand, it is equally true that the raw materials for the making of some manufactured product may come from different sources. yet the finished product be the same to all intents and purposes.

I said that the matter ot flavor is important, but let no one think that sugar honey is devoid of flavor. It, has a peculiarly sweet, spicy, "beey" flavor that is simply delicious, and I believe it is just as truly "sugar *honey*" as basswood honey is *basswood* honey.

Bro. Abbott says that I was once an enthusiastic advocate of what was then wrongly called "sugar honey." This is is not putting the matter very clearly. Then, as now, I was an advocate of the *truth*; and I believed, as I still believe, that the source from which bees get their cane sugar in making honey is unimportant, aside from the matter of flavor. but I have never advocated the production and putting upon the market of sugar honey. The discussion started in the Review in an imperceptible manner; one thing led along, gradually, to another, until the discussion was finally in full swing. All that I desired, or plead for, was that the matter be fairly discussed. I I wished it settled practically, chemically and ethically; but such a furor arose that fair, calm, reasonable discussion was simply impossible, and it was dropped,—and. perhaps, for the best. I have always doubted the practicability and advisability of producing and selling sugar honey. The majority of bee-keepers could not produce it at a profit, and the general public, not understanding the matter as we do, would look upon it with suspicion, and all sorts of damaging stories would be rife.

But all this does not change *facts*, and if we are going to discuss the subject, let us stick to the *truth*.

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The "lucky curve" is a curve in the feed pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself, and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several other kinds. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pens varying in price from $1.50 to $10.00, depending upon the finish of the handle. My pen cost $2 00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,

Flint, Michigan.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prices
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with orders of $5.00 or over. Send for free list.

W. D. SOPER,

R. D. 3 Jackson, Mich.



The Best Bee Goods in the World
ARE LEWIS GOODS

BEWARE
WHERE YOU BUY YOUR
BEEWARE
WATERTOWN LEWIS WIS U.S.A.
MAKES THE FINEST

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NEARLY 100 PAGES

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Make Your Own Hives.

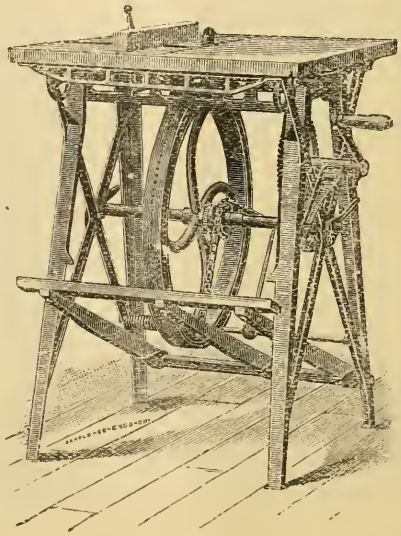
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Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

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Rockford, Ills.

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Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

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Marshfield, Wis.

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FALCONER'S Bee-Keepers' Supplies. We have Falconer's branch house, covering the entire Southwestern States and Mexico. Send for special catalog, etc.

BEES and QUEENS All leading races. Bees and nuclei in any quantity, for distant shipments, a specialty Send for circular and prices.

HONEY and WAX bought and sold. Honey cans in season. Be sure and get our prices.

OUR MOTTO: To have everything the bee-keeper needs, and to buy his product in return. Correspondence earnestly solicited.

THE GRAHAM-HYDE BEE CO.,

San Antonio, Texas.

Successors to the Hyde Bee Supply Co. 1-05-tf

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

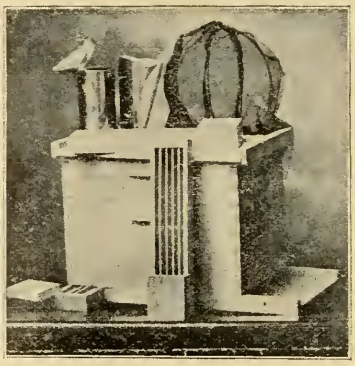
Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin



Dovetailed Hive Showing the Eastman Feeder in Position.

There is a growing demand for a feeder that can be used for simulative feeding in spring; one that can be left under the hive all summer, and one that can be used at all times without exciting robbing. The

EASTMAN FEEDER

fills the bill. We show one in place, one standing on end and one on cover.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

I CAN SELL GOODS CHEAPER than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small country town where labor is cheap; I have new, up-to-date labor-saving machinery run by water power—the cheapest power in the world. Not only will I sell goods cheaper, but ***I will pay the freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering.

THE RURAL BEE KEEPER

A monthly bee journal devoted to the interest of the Bee Keepers of America will teach you how to make money with Bees. May number tells about feeding bees. July is devoted to Queen Rearing; August to marketing honey. September to preparation for winter; October, the wintering problem. I aim to give big value for your money. Swarming, and how it is being controlled to the cash benefit of the Bee Keeper, is the subject upon which the June number treats. It will be the purpose of the Rural Bee Keeper to champion the cause of the small country bee keeper, to show him the way to make money out of bees. by first showing how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense, and later will show him how to cash his crop. Subscribe now. Begin with the first issue and get fifty dollars worth of good sound information in one year for fifty cents.

IN THE FRONT RANK

Beverly, N J., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

I must congratulate you on the reading matter you have in the Rural Bee Keeper, it is all that could be desired, and just what I have been wanting. I take seven Bee papers and consider yours only equaled by Gleanings and the Review. Every number so far has been worth more than the subscription price to me. I do not see how you can fail if the present standard is kept up. Wishing you success, I remain,

Yours truly,
JAMES T. FENNELL.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

CINCINNATI—Since our last report was published, the price of extracted honey has advanced, no doubt acting in sympathy with the sugar market. We quote amber extracted in barrels 6 to 6½c; white clover extracted in barrels and cans, at 6½ to 8½c; fancy comb honey, 13 to 14c; beeswax 28c.

THE FRED W. MUTH CO.
Dec. 38 51 Walnut St., Cincinnati, Ohio.

PHILADELPHIA—The market of all grades of comb honey continues rather weak and trade is light, with a good supply on hand. We quote as follows: Fancy white 15 to 16c; No. 1, 13 to 14c; amber 11 to 12c; white extracted 7 to 8c; amber, 6 to 7c; beeswax 28c. We are producers of honey not handle on commission.

WM. A. SELSER,
Feb. 8, 1905. 10 Vine Street,
Philadelphia, Pa.

CHICAGO—Market on comb honey has been unusually quiet for past month occasioned by extreme cold weather which prohibited making shipments.

Trade on extracted honey has been very satisfactory since the first of the year, but as to quantity sold and prices obtained, and we advise letting shipments of extracted come forward if still in producers's hands. We quote as follows: Fancy white, 12 to 13; No. 1 white 11 to 12c; fancy amber 10 to 11 cts: No. 1 amber, 8 to 10 cts; white, extracted 6½ to 7½c; amber 5 to 6c; beeswax 28 to 31c depending on quality.

S. T. FISH & CO.,
189 South Water St.
Feb. 6, 1905. Chicago, Ill.

KANSAS CITY—Market on all kinds of honey is very slow; the supply exceeds the demand; extracted seems to move more freely than comb at present. We quote as follows: Fancy white $2.25 per case; white extracted 6¼ to 7c; beeswax 28 to 30c.

C. C. CLEMONS & CO.,
Feb. 7, 1905. Kansas City, Mo.

KANSAS CITY—Market has been overstocked with both comb and extracted honey; but of a poor quality. No. 1 to fancy is in demand A good demand for beeswax We quote as follows: Fancy white, 11 to 11½c; No. 1 white 11c; fancy amber 10c; white, extracted 6½c; amber 6c; beeswax 30c.

WALKER-BREWSTER GROCER CO.,
Dec. 30, 1904. 423 Walnut St, Kansas City, Mo

CHICAGO—The trade in honey is still below the normal in volume and prices unchanged, except that the pressure on the part of the holders to realize is more urgent. Fancy white comb, 12½ to 13c; No 1, 12c, off grades 10 to 11c; extracted white 6 to 7c, according to flavor, quality and package, anything off is lower, amber grades 5½ to 6½c. Beeswax 30c per lb if clean and good color.

R. A. BURNETT & CO.,
Feb. 8, 1905. 199 So. Water St.

BUFFALO—Strictly fancy one-pound comb honey sells fairly well at 13 to 14c, but all other grades must be cut hard to move, but can be sold if so cut. Can use some fancy comb. Fancy white 13 to 14c; No. 1 white, 11 to 12c; fancy amber 9 to 10c; No. 1 amber 8 to 9c; fancy dark 8 to 9 c; No. 1 dark, 7 to 8c; white extracted, 4 to 6c; beeswax 28 to 30c.

BATTERSON & CO.,
Feb. 6, 1905. Buffalo. N. Y.

TOLEDO—The market on comb honey is very dull, and therefore prices have weakened. We quote fancy white clover and basswood, in nondrip shipping cases at 13c, No. 1, 12c, with no demand for amber. Extracted, white clover, in barrels, 9 to 6½c; in cans 7½ to 8½c. Beeswax 26 and 28c.

GRIGGS BROTHERS,
Feb. 6 Toledo, Ohio,

NEW YORK—The market is quiet on comb honey. Extracted is selling fairly well. Beeswax wanted We quote as follows: Fancy white 14 to 15c; No. 1 white 13c; fancy amber 12c; No. 1 amber 11c; fancy dark 10c; No. 1 dark 9c; white, extracted 6 to 6½c; amber 5½ to 5¾c; dark 5 to 5½c; beeswax 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Dec. 30, 1904. New York.

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

2-'05-tf

WE WERE AWARDED A

Gold Medal

ON OUR BEE-KEEPER'S SUPPLIES

AT ST. LOUIS, 1904.

Also at Paris Exposition, 1899, and Trans-Mississippi Exposition at Omaha, 1900. Highest awards at World's Fair, Chicago, and Pan-American Exposition, Buffalo.

ROOT'S GOODS ARE PRIZE WINNERS AND ARE SOLD THE WORLD OVER.

Assiniboia
Austria
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France
Germany
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Hayti
Holland
Hungary



India
Ireland
Italy
Jamaica
Japan
Manitoba
Mexico
Montserrat
Natal
Norway
Palestine
Russia
Rhodesia
Scotland
Siam
Spain
Sweden
Syria
Tasmania
Trinidad
Vaal River Col,
Venezuela

In all States and Possessions of the United States and Provinces of Canada.

OUR CATALOG FOR 1905

is now on the press. If you wish a copy at once drop us a postal. It takes some time to print and mail to our list of 250,000 bee-keepers.

THE A. I. ROOT CO., Medina, Ohio

BRANCHES:
Chicago, Ill., 144 East Erie Street
Philadelphia, Pa., 10 Vine Street
New York City, N. Y., 44 Vasey Street
Syracuse, N. Y., 1635 W. Genesee Street
Mechanic Falls, Maine.

BRANCHES:
St. Paul, Minn., 1024 Mississippi Street.
San Antonio, Texas, 1322 So Flores St.
Washington D.C., 1100 Maryland, av., S W
Havana, Cuba, Obrapia 14.
Kingston, Jamaica, 115 Water Lane

MARCH, 1905.



At Flint, Michigan—$1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 206

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, March 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines aud upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
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Western Bee Journal	(1.00)	1.75
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Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
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Youths' Companion (new)	(1 75)	2.35
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Bee Supplies.

Everything the Bee-Keeper needs. The best goods made. We sell Lewis goods at factory prices. Special inducement on bee hives. Established 1869. Eighty-eight page catatogue and a pocket mirror free.

C. M. Scott & Co.,
1002 E. Wash. St.,
3-05-5t Indianapolis, Ind

The New Century Queen Rearing Co.

Has all queen cells built in full colonies and under the most favorable conditions, while the system of mating allows the sale of queens at unusually low prices; also the utmost promptness in shipment. No claim is made that these queens are superior to all others, but they are certainly as good as can be reared; while for promptness of service and fairness of dealing they cannot be excelled

The following varieties are bred, and mated in different localities· Three-banded, and Golden Italians, and Carniolans. Prices for either variety are as follows: One tested queen, $1 00; six for $5.00; one untested queen, 75 cts., five for $3.75; ten for $6.00; fifteen for $8 25. Prices on nuclei and full colonies given upon application.

Safe arrival guaranteed. Send for discriptive circular.

NEW CENTURY QUEEN REARING CO.
3-05-tf Berclair, Texas.

Names of Bee-Keepers
TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates). and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now havea type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	205
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.....	130	W. Va....	178
Iowa..	800	N. H. ...	158	Wash....	122
				Wis.....	620

W. Z. HUTCHINSON, Flint, Mich.

We want the readers of

The Review

to read our Journal. It has just entered its second year, with a list of 3,000 subscribers—think of it—Have you ever heard of a Bee Journal with such a record? Now, for a good year's work. Won't you help?

Send $1.00 for a year's subscription.

THE WESTERN BEE JOURNAL

P. F. ADELSBACH,
Editor,
KINGSBURY, CALIFORNIA

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

STANDARD

Poultry AND... Bee Supplies

The best of everything for the poultry and bee-keeper.

Freight Rates from TOLEDO are the Lowest.

BIG DISCOUNTS FOR EARLY ORDERS

Our 60-page Catalog is ready. Send for it. It's free.

GRIGGS BROS.
521 Griggs Block
Toledo, Ohio.

Good discounts on early orders. Complete stock of bee Supplies. Lewis Company's Goods at Factory Prices.

Muth Special Hive

The best Dovetailed Hive there is made. Send for Catalogue. We are always in the market to buy honey—submit price. The Fred W. Muth Co., 51 Walnut Street, Cincinnati, Ohio,

---

1%

Discount on all orders sent in during March. By sending your order now you will save money and secure prompt shipment. Our Hives, Sections, etc., are of perfect workmanship. Send for catalogue—free for the ordering.

PAGE & LYON M'F'G CO.,
New London, Wis.

10-04-tf

The Wood Bee Hive and Box Co.,

Lansing, - Michigan

gives two per cent. discount until April 15 on the best Dovetailed Hive made. Price, only $1.25 on a story and half hive. 200 second-hand hives for sale cheap.

12-04-tf



YZ
YELLOWZONES

Nuclei for Spring-Delivery

Now is the time to order your nuclei for spring-delivery. Tell us what you want, and we will give you prices by return mail.

BATAVIA, ILL., Aug. 21, 1901

Mr. J. D Blocher—

Dear Sir: I thought I would let you know as to the results from the nuclei sent me. They were placed in ten-frame hives, and are now in fine condition. From one I removed 24 pounds of honey, and had to give six of them more room, as they were hanging out. They have more than reached my expectations.

Yours Resp., E. K. MERIDITH

D. J. BLOCHER, Pearl City, Ills.



—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.

T. F. BINGHAM, FARWELL, MICH.

A Solid Foundation

MEANS

A Solid House.

Dadant's Foundation

MEANS

SOLID, STRAIGHT, WELL-BUILT COMBS.

110,000 pounds used by
Bee-Keepers in 1904.

Satisfaction Guaranteed

Bee-Keepers' supplies of all kinds. Beeswax wanted at all times.

L. C. & A. G. Woodman, Grand Rapids, Mich.,
Agents for Michigan.

Send for our
1905 Catalog.

DADANT & SONS,
Hamilton, Illinois.

BIG DISCOUNTS on Bee Supplies, Berry Boxes and Crates now while we can serve you promptly. Address

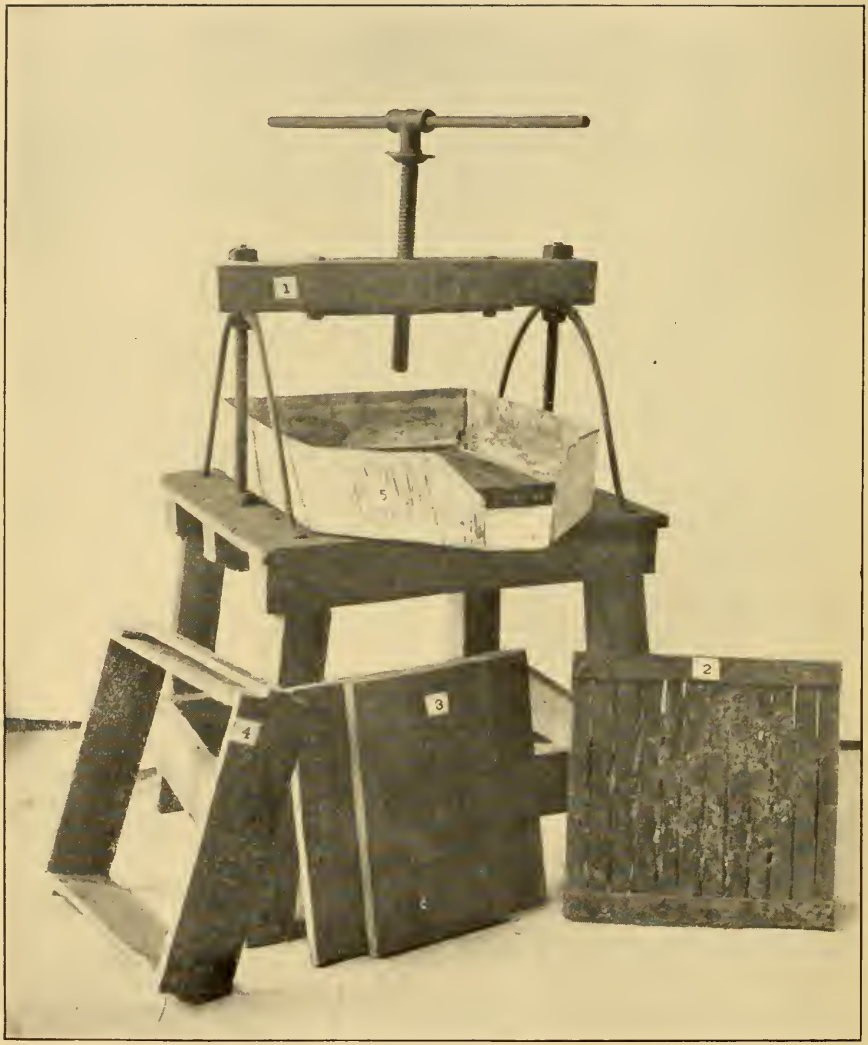
SHEBOYGAN FRUIT BOX CO., Formerly
R. H. SCHMIDT & CO., Sheboygan, Wis.

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich.
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.



The Townsend Wax Press.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, MAR. 15, 1905. NO. 3.

Rendering Beeswax with Comfort and no loss of wax.

BY E. D. TOWNSEND.

I HAVE been wondering if all bee-keepers have such a time learning to render beeswax as we did. When I say "we," I mean my wife and myself; as she used to assist during the first few years of our bee-keeping experiences; and "experiences" they were, too, I can assure you, when it came to rendering wax.

A DECIDEDLY HUMOROUS ACCOUNT OF THE OLD WAY OF RENDERING WAX.

The first mistake the beginner is likely to make, is in having too hot a fire when melting up his cappings and old combs. This causes the wax to boil before it is melted, and ready to set off the stove. In this case it is liable to boil over on the stove and all over the clean kitchen floor; possibly take fire, and smoke the white walls.

We used to melt our wax in the family wash boiler, and my wife says she scarcely got her boiler nice and clean, so she could begin to boil her clothes without their being soiled, before another year's wax was ready to render. After it was melted we dipped off what free wax arose to the top, and then our troubles began. Space will not admit of mentioning all of the contrivances we have tried in separating the wax from the slumgum, but I will mention a few: Strainers of cloth hung around the stove to drain; colanders, pans and sieves set in the dripping pan in the oven; sacks of slumgum on the wash-board, placed in the tub in the usual way, and the rolling pin used to squeeze out the wax. Yes, it spattered all over the clean kitchen floor. Great times those. The cat boarded away from home in those days. Did anyone else ever have such a time? My wife says every dish in the house was smeared with wax. Then *such* a time clearing up. I don't know whether you will believe it or not, but "honest Injun," even to this day, my wife faints away every time she hears beeswax mentioned.

We do not even keep a ball of wax around for waxing thread, as it gives her that "queer feeling" every time she sees it. Then the most discouraging part of it all was, when we emptied out our slumgum, to see those puddles of nice yellow wax trickle out through the grass, showing that, after all the trouble, we got only a part of the wax. I presume this is the kind of slumgum the dealer likes to buy. Screw-pressure is the most efficient and practical method of removing all of the wax from this slumgum, but it is not necessary to pay a high price for a factory-made press; a person of ordinary ability can make a press, for $3.00 or $4.00, that is the equal of any press. As I have made and used such a press, I will proceed to describe it and its management.

HOW TO MAKE AN EFFICIENT, HOME-MADE, WAX PRESS.

The press is so simple, and so clearly shown in the frontispiece, that little explanation is needed. With a little assistance from his blacksmith, anyone could make such a press. Procure two tough pieces of 3 x 4 oak, 24 inches long (fig. 1). Twenty inches from center to center, at equal distances from each end, bore ¾-inch holes through the 3-inch way of both pieces. These holes are for the ¾-inch rods to pass through to form the main uprights. Then in the center of one wooden piece, parellel with the other holes, bore a 1⅛-inch hole. This is for the bench-screw to work through. Have your blacksmith cut two pieces 20 inches long, and one 30 inches long, from a ¾-inch rod. The two, 20-inch pieces are to have threads cut for a distance of 5½ inches on both ends, and each piece is furnished with four burrs and four washers. To assemble the machine, turn a burr clear on at each end of each rod. Next put on a washer. Now we are ready for the 3x4 oak pieces mentioned above. After the ends of the iron rods have been slipped through the holes in the ends of the wooden pieces, a washer is put on over the projecting end of each rod, then a burr, and the parallel 3 x 4 pieces adjusted a scant 13 inches apart.

When the ⅞-inch bottom, or table is on, there will be 12 inches space in the clear, between the top of the press-table and the underside of No. 1. The screw is the same as the carpenter uses in his work bench vise. Ours is 16 inches long and 1 1-16 in diameter. The burr for the screw to work in, is let up into the under side of No. 1, and is held in place by a 3 x 12 steel plate ¼ inch thick, with a 1 1-16 inch hole in the center for the bench screw to work through. If you will turn to the cut you will see two bolts, one each side of the screw, that hold the plate in place. Instead of round holes in the ends of the plate, we have slots crosswise, which allows us to adjust the screw so that it will stand perpendicular. There should be another similar plate on top, only the slots in the end should be the opposite way—lengthwise. There is a good deal of strain here, and everything must be made solid.

The frame can be made to suit one's fancy; ours is of 2 x 4, well braced, 24 inches high, the top 24 x 26 inches, the long way parallel with the 2 x 4 piece. Do not forget to brace well with a ⅜-inch rod from the table to No. 1. (See cut.)

The 30-inch, ¾-inch rod is for the lever. The one coming with the screw, is not sufficient.

The galvanized pan is five inches deep, and 18 inches square, with one side left open and formed into a spout, to carry off the wax. (See cut.)

The racks, two in number, (No. 2) are 16 inches square, made of one-inch square pieces of pine, spaced ⅜ of an inch apart, and cleated at each end. The follower (No. 3) is the same size, and is made of two thicknesses of ⅞-inch boards, with the grain running

in opposite directions. In the center of the follower, on top, is a 4 x 5-inch steel plate, with an indentation in the top for the screw to work in. Two screws fasten this plate to the follower. The form (No. 4) is 15 inches square and five inches deep.

We now have the use of an old, abandoned dwelling house, at little expense; and, as our cappings and wax material acumulate during the season, they are stored here. Those from the yards near home are stored about as fast as they accumulate, as our honey houses are small (12 x 16 ft.) and we cannot spare the room to keep the cappings there after they are through draining. Those in the yards that we visit by rail, are barreled up and are shipped home by freight, all in one lot, after the season closes.

SOME HINTS AND INSTRUCTIONS IN THE RENDERING OF WAX.

We bought of a second hand dealer, a large, No. 9, cook stove to use in melting our wax. This stove is also used for many other purposes, but was put in mainly for rendering wax.

The work of rendering wax is as follows: Put a pail of clean, soft water into a No. 9 wash boiler. Then fill the boiler full of cappings; and, as they melt down, add more, until the boiler is as full as you can handle conveniently—usually about two inches from the top when melted. Be sure the cappings are chopped up fine before putting them into the boiler, as they will melt much quicker in this shape. Don't forget, to also break up any lumps that may form during the melting process. Our cappings are all stored in cracker and sugar barrels. You will need an open-top box, not too deep, that will hold five or six bushels. Throw into this box a barrel of cappings; take an old ax, and cut off the hoops and remove the staves, then chop up the cappings with a spade. This box is also used to chop up our wax in, when we re-melt it to purify it.

We will suppose you have a boiler of wax on the stove. See to your fire that it is not too hot. If you *have* a hot fire, leave the gridles on the stove. You will need a good, long paddle to keep the lumps well broken; a barrel stave will answer. When the wax is nearly all melted, keep stirring it, and breaking up any chunks that may form, always keeping in mind that wax *never should be allowed to boil* during this, or in subsequent meltings. Just as soon as the last chunk is melted, slide the boiler off the stove, upon a barrel previously arranged the same height as the stove. The wax is now ready to go through the press. See that the press-screw is clear up out of the way, and the galvanized pan (with the spout end) is in place. Next put in one of the slatted frames, then the form, when we are ready for the 30-inch square burlap. In selecting burlap, get the thin, open kind, like that peanuts come in, as the wax will pass through this grade more readily. Press the burlap down into the form, set a galvanized wash tub under the spout, (you will need three or four of these tubs) then with a large dipper, with a wooden handle, dip the wax from the boiler to the press. You will not need to put over two-thirds of the melted wax through the press. With a little care you can dip all the slumgum off the top, so that quite a quantity of the wax, water and honey can be emptied directly into the tub, thus saving the work of putting it all through the press. When the form has been filled, take hold of the two opposite sides of the burlap, and move it up and down; then do the same with the two other sides. This works most of the water and wax through the burlap, out of the way, so we can handle the slumgum to better advantage.

We will suppose the wax is nearly all out, that will come out without

pressue, take hold of the burlap on the two opposite sides, bring them together with a good lap, and pin with a ten penny nail; then handle the two remaining sides in the same manner. Now we are ready to remove the form and put another rack on top, the same as was used underneath. Now put on the follower and add the screw-pressure. When the wax stops running, loosen up the screw, give the cheese a half turn, and add more pressure. If you have done a good job there will not be a *particle* of wax left in the slumgum. One pressure is all that is necessary for a boiler full of cappings; but with old combs we press four or five times, always keeping in mind that the less slumgum put into the press the more perfectly can it be freed from wax.

UTILIZING THE LAST DROP OF HONEY IN CAPPINGS.

If you have followed me thus far, you have noticed that, in the process of melting, the honey and wax have never come to the boiling point; hence the flavor of the honey is not injured for vinegar. After the wax cools in the tubs, take off the cake, and empty the honey and water into an open-end barrel. After it has stood over night, or until the sediment has settled to the bottom, skim, and dip off the top, and you will have as good material for vinegar as it is possible to secure; still more, you will have secured every ounce of sweet there is in the cappings, and that without any *extra* labor. This material will be much *too* sweet, but soft water can be added, and the vinegar made in the usual way. We do not use the sweet from old, black brood combs, as it is too black, and dirty.

CLARIFYING BEESWAX.

Clarifying beeswax, like everything else, is very simple when you know know how. The same boiler is used for this second melting. After a little cleaning around the upper edge, put in a pail of water, then fill with the wax as it comes from the press, only be particular to chop it up fine. Any chunks larger than two inches in diameter should be chopped up with the ax, as we want to melt it with the *least possible heat.* As in the first melting, the chunks are kept broken apart with a paddle. Give a little more time for the wax to melt, rather than have it boil; and just the minute it is all melted, slide it off the stove the same as before, cover up with two or three thicknesses of blankets, and let stand until there are signs of its caking around the edges. Usually, four or five hours are enough for the impurities to settle to the bottom. After skimming the wax, it is then ready to dip off and cake. Clean your wooden-handled dipper, and dip the wax into flaring-top, tin pails. Don't make the mistake of putting water in the pails. There is a little knack about dipping out the wax in such a manner as not to disturb the sediment any more than possible. Do not think of dipping right in, just as if you were dipping water, but drop the side of the dipper into the wax, say, three-fourth of an inch deep, now carefully sink the *bottom* of the dipper down into the wax, always keeping the *top* edge near the surface of the wax. In this way you will be surprised to see how close you can dip to the sediment without disturbing it. Stop dipping as soon as signs of sediment are seen in the dipper, and what is left in the boiler can go in with the next melting. Let me repeat: If you want that soft, nice, pliable wax that is so much in demand in the market, *don't ever allow your wax to boil* in any process of rendering.

REMUS, Mich., Feb. 7, 1905.

Something that Promises Better Than Shook Swarming.

BY H. G. SIBBALD.

IT is well understood that if we can keep our colonies working in a normal condition, without swarming, all through the season, that the best results will be obtained. This happy state of affairs seems impossible. A certain per cent. *will* contract the swarming fever; and, at an out-yard, where natural swarming cannot be permitted, something must be done to anticipate or cure this troublesome fever. Shook swarming has been resorted to, and, to a certain extent, has succeeded; when nothing better could be employed it has been called a success. But there are decided objections to its practice. If the shaking process is followed by a day or two of scant honey flow, there is trouble; such as swarming out, mixing up, etc. If hived on starters, drone comb is built. If on full sheets or combs, too much honey is stored below. Queens reared under this system are not of the best. A second and third shaking are often necessary. Altogether there is too much labor required; and the constant shake, shake, seems to annoy the bees, which, in turn, annoy us.

The system which I have discovered, and which I will try and describe, seems to be a vast improvement on the above; and, although I have tested it only the past season, which was not an over bountiful one with us, I have been persuaded by friend Hutchinson to allow it to be published, so that others may try it next season, and thereby have it more thoroughly tested and the sooner a benefit to all if a success.

When a colony is discovered building queen cells, move it off its stand, a little to one side. Place another hive on the old stand thus left vacant. This new hive may be empty, or it may contain four or five empty frames. I prefer that it contains two empty combs and a few empty frames with starters of foundation. We next turn to the old colony that has been set to one side, take out one frame of brood with queen cells on it, making sure that we *don't* get the *queen*, and place it with the adhering bees, in the hive between the two empty combs. In these two combs will be stored the pollen; thus preventing it from being carried to the supers, which (together with the bees they contain) are now put on the new hive—just as they were taken off for the examination.

We are now through with this manipulation; and the result will be that the field bees will soon all be back to the old stand. Having been robbed of nine-tenths of their brood, and their queen (but with bright prospects of soon having a new queen) and having very little brood to care for or cover, they soon lose the swarming fever and work very well. As long as there is room in the supers, they are not likely to build much, if any, comb in the partly empty, lower hive.

The old colony which we set aside will very soon lose its field bees, as they return to the old stand, and, as no new honey will be coming in, the bees in the old hive will conclude there must be a famine in the land, or that the season is over. It is no time for them to swarm. They soon remove the larvae from, and destroy, every queen cell. The swarming fever has been knocked in the head here, and both

hives are safe for ten days, or even a longer period.

THE EASE WITH WHICH INCREASE MAY BE CONTROLLED.

Upon our next visit to the apiary, which will not be sooner than three or four days, we will find the colonies in the above described condition. Our next manipulation depends somewhat upon ourselves, or upon our needs, or wishes. For instance, if we desire increase, all we really need to do is to move the old colony to the opposite side of the hive, or old stand, thus again giving the lately acquired field force to the colony with the supers. This may be repeated at subsequent visits, until we finally decide to set it away upon a new and permanent stand. Colony No. 2 (on the old stand) will requeen without swarming; as it has very little brood, and has lost all desire to swarm. It may require a few more combs, or full sheets of foundation; but even if left as it is, it will build all-worker comb, and be in good condition for winter.

If increase is *not* desired, and we are satisfied with an old queen, we simply destroy the cells on the one frame of brood on the old stand, put it back in the old colony, remove the empty hive, and set the old hive or colony back, thus uniting all again, when *with plenty of super room*, they will not attempt to swarm again. If we wish to re-queen and re-unite it is just as simple—wait until the young queen is hatched; kill the old queen; then unite.

If we wish to increase by the nucleus plan, set the hive containing one frame of brood to the opposite side from the old hive, and return the old hive to its original stand.

By this method, or system, it will be seen that no shaking is required; that there is absolutely no chance of an absconding swarm; no looking for queens unless we wish to re-queen, when she is easily found, as the field bees are not with her. It does away with destroying queen cells, and after-swarms are *unknown*.

CLAUDE, Canada, Oct. 25, 1904.

[In justice to Mr. Sibbald and the readers of the Review, it is only fair to emphasize the fact that it was only upon my earnest solicitation that he consented to allow the publication of this method. He wished to give it further trial before publishing it, but I felt that we would sooner know its value by allowing its use all over the country under different conditions. There is not a particle of doubt in my mind that this plan will break up the swarming fever all right; the only doubt in my mind is whether it will *stay* cured if the two divisions are again re-united. Mr. Sibbald says it does, but we must remember that his experience, although with three apiaries, was only for one season, and in one locality. If a colony makes preparations for swarming early in the season, and is induced to give it up by the method given above, the question is, may it not again contract that fever later in the season? Well, suppose it does, the same treatment would again control swarming, and allow the bee-keeper to become master of the situation. Probably the majority of the colonies so treated would not again make further preparations for swarming, and the few that did, if any did, could be given a second treatment; and I think I would rather go through with this operation twice than to "shake" once. I do not mean that I think it would be less work than shaking, but that I think the results would be more satisfactory. If the bee-keeper desires increase, one colony from each one that prepares to swarm, as is the case with shook-swarming, which this method is designed to supersede, then I can see no possible "hitch" in the proceedings, and see many advantages over shook-swarming.—ED. REVIEW.]

The Requirements for Successful Extensive Bee-Keeping.

BY M. A. GILL.

EDITOR REVIEW, before answering the many questions you have asked about keeping bees in large numbers, I must indulge in a little sermon upon the requirements of the *man* who is to tackle a proposition of this kind.

HARD WORK AND ENTHUSIASM NEEDED IN EXTENSIVE BEE-KEEPING.

First, he must not be a human *machine*, that has been standing idle, rusting out as it were, and waiting for something *easy* to turn up; and when he contemplates bee-keeping upon a large scale, his only thought must not be upon the pleasure there will be in the possession of what the business will bring him—like the hired man who thinks only of his wages, and longs for sundown. He must realize, before going into the business, that it means *work*, and much of the time *hard* work. He must have some enthusiasm, either acquired or natural, for enthusiasm is force, and force is success. He should be a man who does not allow his ideas to become fossilized; nor one who keeps a little hobby horse to ride down every hobby that is sure to be found along the broad, practical and sensible road that leads to successful bee culture.

A home-apiary is very desirable; but if a person is located in a field that is already occupied, and does not wish to give up schools, churches, and other things that make life worth living, it is not necessary to have a home-apiary.

HOW TO SELECT A LOCATION FOR AN OUT-APIARY.

As to how far apart apiaries should be located, I will say, that is one of the many questions the apiarist must decide for himself. Being on the ground, and knowing that different fields differ greatly, he must decide whether a location is fully stocked or not. Suffice it to say, that locations should be picked out where there is the greatest amount of the particular flora from which comes the bulk of the surplus honey. Where it is possible, arrangements should be made with the *owner* of the land, and not the *renter*, then, by choosing a tract of untillable land, in an out of the way place, arrangements can be made so the bees can be kept there for a term of years by the bee-keeper paying an annual rent, which may go to the land owner or renter as agreed upon.

HORSES THE BEST METHOD OF TRAVEL.

At the present cost of owning and operating automobiles, the best and cheapest mode of travel is, perhaps, with a good team; as the hauling out from the central station can be done while making the weekly visits to each apiary during the spring and early summer.

WHETHER YOU MAKE OR BUY YOUR HIVES, LET THEM BE OF STANDARD SIZE AND MAKE.

With regard to making or buying your own hives, I will say that if you have good material, and sense enough to make as good a hive as you can buy, and can save money by so doing, why, make them, of course, but if you have got a notion in your head that you know more than Father Langstroth, and all the other manufacturers since his time, and are going to get up some outlandish contraption that is better

adapted to set hens in than to keep bees in, then by all means you better buy your hives. Then, in the event of your wanting to sell out, you can do so at a good price; otherwise, your outfit wouldn't be worth any more than box hives to the average bee-keeper.

I would advise making just as little increase as possible, then you will secure the greatest amount of honey possible, and this will bring you the money. Remember, if you never make much increase, you will never have much *decrease*. There may be in your field a hundred colonies of bees that you want, and need, and they may be better worth to you $600, or even $800, (together with this location) than another hundred brought in from the outside at $400.

WHEN TO PRODUCE COMB HONEY—WHEN EXTRACTED.

As to whether you shall produce comb or extracted honey, I will say, study your resources first; and if you have a long honey flow of white honey, then produce comb honey; but if you have a short flow of either white or amber honey, then produce extracted. You may have a location where there is a long honey flow, the first half being white honey, and the latter half amber honey, in this case I would advise the production of extracted honey, taking great care to produce a well-ripened article of white honey for table use, selling the dark or amber honey to the manufacturers, as they prefer a dark and strong flavored article.

CONTROL SWARMING BY "SHAKING"—UNITING THE BROOD.

Answering the question of how swarming is to be controlled, I will say that with me, where the weather is such that I can work avery day, where I meet my appointments with nearly the same accuracy as a railroad can run its trains on schedule time, I much prefer to handle swarming by the shook-swarming method. The *modus operandi* of which cannot be given here, but I will make a suggestion that I think will be found profitable in practice. When swarms have been shook out, and brood carried to a new location, always put two hives of brood together, either close beside each other or one on top of the other, give one a ripe cell or a laying queen, then, in 18 or 20 days (or sooner if you need the hive) shake the other right in with the one having the queen, and watch the results. I had such colonies store 100 pounds comb honey in August this season.

If engaged in the production of comb honey, it all must be brought to the central station, which, of course, is the shipping point, and where all sections are put up during the winter, and, as all supers are needed there, it is not necessary to have any tents nor buildings at the out-apiaries; a good tight wagon box and a large wagon sheet being all the honey house necessary.

All help should be paid wages; expert help wages according to the value.

In regard to carting bees home to winter, I will say, from my own view point, if I intended keeping bees in large numbers, when I got them on the cart, I would cart them to where they would winter out of doors, and I would not cart them back in the spring.

LAZINESS THE GREATEST OBSTACLE TO SUCCESS.

You ask what is the greatest obstacle to overcome in keeping bees in large numbers, I will answer by simply saying *indisposition to work*. I know now that the large honey producer has a much easier task in disposing of his crop than does the small producer, and the greatest help to any one starting on a large scale is to adopt a *complete uniformity of fixtures*.

In recapitulation I will say, be sure you *love* the work if you intend to keep

bees in large numbers. Don't be like the maiden who told her lover that she did not love him *then*, but would try and *learn* to love him, for, with the increased cares and responsibilities, you may not *learn* to love it, and you must remember that there is sometimes as much pleasure in the pursuit as in the possession.

A RICH REWARD AT THE CLOSE OF DAY.

The amount of travel absolutely necessary to care for so many bees, becomes almost a drudgery; but, in my own case, my wife is a landscape painter, and, many times, as we start to drive home after a hard day's work, with the sun's last rays falling upon the crags and peaks of the Rocky Mountains, forty miles away, casting its lights and tints down the canons and out upon the fields and groves, the whole country is transformed into a great art gallery; and, in the ever-changing panorama, she frequently points out to us the invisible, yet beautiful, hand of God.

LONGMONT, Colo., Nov. 28, 1904.

Some Difficulties that Beset the Farmer-Bee-Keeper.

BY FRED A. KRAUSE.

I HAVE been much interested, of late, in the discussions as to whether bee-keeping should be made a specialty, or mixed with some other business. It seems to be the general opinion that bee-keeping and farming make the best combination, and that the farmer-bee-keeper is the only sure winner on the road to success. As we have not heard much from the farmer-bee-keeper himself as to what *his* opinion is on the matter, and how he gets along with the combination, I will speak for one. The man who has several irons in the fire at once, generally knows how successfully he can handle them, better than does the man outside who is merely looking on.

THE EXPERIENCE OF A FARMER-BEE-KEEPER.

If I understand my brother bee-keepers correctly, I am what they term a farmer-bee-keeper, as I was born and raised on the farm I now own; which consists of 200 acres, about half improved—and a good paying farm it is. I have kept bees on the farm for the last 15 years; keeping all the way from one to one hundred colonies; and reading the bee journals about that length of time. I will, however, speak only of the last seven or eight years, when I was trying to keep from 25 to 100 colonies.

WORK ON A FARM MUST BE DONE EVEN IF BEES ARE NEGLECTED.

Now, my friends, I was *farming* and *bee-keeping*, so, when you see where I made blunders, don't say: "Why didn't you 'tend to your bees better ?" If you do I shall answer: "Because I had some farm-work that *had to be done* at just that time, and I could do only one thing at a time."

Let us suppose it is spring. Now is the time to take the bees out of the cellar; but that will not take long. Then, after the bees are all set out and looked over, to see how many are left

alive out of, perhaps, 50 colonies, and finding about 35 alive, and some very weak, at that, I think it of no use to order many supplies, as so many bees are dead; and, perhaps, more will die; so I decide to order no supplies until I *see what I need.*

The bees are left on their stands until warm weather comes, but *then*, I am too busy putting in my farm crops to look after my bees. I can't touch them until my seeding is done, at least —then I get a little spare time. I find only about 25 colonies alive. The rest had dwindled down on account of old queens and other reasons. Well, after such a heavy loss, I don't feel able to buy any supplies until I am *sure* how the season is coming on, so I leave the bees for awhile until I get my planting done, fences built and repaired, and a hundred other things that come under the head of general farming. By that time I can see that the bees are doing well, and I *order my supplies.*

PROCRASTINATION IN ORDERING SUPPLIES.

But those supplies do not reach me when I want them—by the first of June. The bees don't seem to care, however; they begin to swarm, of course. I hive them in the hives in which the bees died the previous winter, until I have these hives all full, besides other hives I made between times. By this time I have, perhaps, 60 or 70 swarms from my 25. *Then*, come my supplies; and my help and myself are busy putting up sections when the bees ought to have been at work in them long before. But we can't work at our sections and supplies all the time, as haying time is here, a more important work that *can't be put off*, so we go at the haying, thinking we can work in the shop rainy days and wet mornings.

After we get nicely started at haying, those "blamed bees" have another swarming fever. The first swarms I hived become too populous, and swarm out. Now I have no more hives, so I double up some, and cut out queen cells till I wish I had *never seen bees nor haying*, though I do my best to take care of both hot irons.

MAKE HAY WHILE THE SUN SHINES— TAKE CARE OF BEES WHEN IT RAINS.

We make hay when the sun shines, and work with the bees when it rains, but sometimes this keeps on till *harvest* begins, and *that* can't be put off, so here we have another iron, still hotter.

Finally, the swarming season is over, for which thank goodness!

What surplus honey I have can stay on the hives until I have time to take it off, perhaps in September; when I find mostly dark or fall honey, badly travel-stained, but I store it away until "some spare time" to get it ready for market.

BEES GO INTO THE CELLAR IN POOR CONDITION BECAUSE OF NEGLECT WHILE DOING THE FALL-WORK.

The bees I leave to take care of themselves the rest of the fall, although I know some colonies have old queens, some only a few bees, and others not enough stores, but I cannot bother with them at this time of the year when I have all kinds of farm work that *must be done.*

I keep at my fall work till it is time to put the bees in the cellar, when, of course, I have to put them in just as they are, some with old queens, and some with too many old bees, but it is too late in the season to remedy these evils.

After the bees are in the cellar, I have nothing more to do with them till the next spring; at least, I *think* so, but I have learned that much of my bee-work ought to be done in the winter time.

I am, however, situated like many other farmers; have no warm shop in which I can work; besides I have so many other things to do in those short winter days, that I finally decide to prepare my supplies *early in the spring*.

But when the next spring came it was the *same old story*: I had only about half as many colonies as in the fall, so; felt discouraged again, as before, and let the bees take care of themselves. I neglected sending for supplies, or, perhaps, didn't need any, as the bees were so weak in number. Then, perhaps, would come a cold wet season, so the bees would just about build up in time to go into winter quarters, with about the same results in wintering as previously described.

MOST FARMER-BEE-KEEPERS EVENTUALLY QUIT BEE-KEEPING.

The fore-going is a fair picture of my experience with farming and bee-keeping combined; and I am not the only one who can draw such a picture. I can count up lots of other farmers all through this country who have had similar experiences. Most of them quit the bee business after five or six years of such experience, and the loss of several hundreds of dollars. I am, perhaps, an exception. I have stuck to it till I now have 100 colonies, run in an up-to-date manner for producing first-class honey, and I shall keep on increasing my bee business, till I will some day *quit the combination and make a specialty of bee-keeping*. I have done both long enough to be convinced that I am not capable of doing both, as each ought to be done. and make money out of both. Maybe some of the friends will say, or, at least, *think* "Perhaps you are not much of a farmer, or bee-keeper either." Perhaps not, but I know this much: I bought my farm, going in debt for it, and paid for it off from the *farm*; *not* from the bees. The reason I don't keep at farming instead of bee-keeping, is simply because I *like* the bee business *best*, not because there is the *most money in it*. I still think there is the most money in farming, but I think the bee business brings the most money for the *amount invested*.

BEES MAY BE KEPT ON A FARM IF THERE IS SOME ONE TO CARE FOR THEM.

Now, I don't want my friends to think I am just trying to help Mr. Hutchinson out with his argument that one should not mix bee-keeping with anything else; I am only trying to show you the difficulties that arise in the combination of bee-keeping and general farming. Perhaps there are some farms where an apiary pays, but there is probably some one in that family who has a liking for bees, and don't care to do farm work. In such cases it is all right to run bees in connection with farming. But to recommend bee-keeping to the average farmer, to increase his income, I would no more think of doing than to advise him to go to doctoring horses to increase his income. Bee-keeping is an *entirely different study* from any line of agriculture; in fact, has nothing to do with agriculture, as there are places where tons of honey are produced where the tiller of the soil has never been. Of course, I admit that agriculture has increased the yield of honey in many places, and, possibly, decreased it in some places, too.

As to the farmer having the moral right to keep bees to gather the nectar from his clover and buckwheat, he has the same moral right to manufacture his own plows and harrows, but each is a different trade. If he wishes to dabble with both, and experiment, let him have that pleasure. The question is, does it *pay* him to try to do both? Will it not pay him better to learn to be master of one trade and do that well?

FARMER-BEE-KEEPERS ALWAYS THINK THEY WILL "DO BETTER NEXT YEAR."

Some one made a statement at the St. Louis convention that so many farmers owned so many colonies of bees, produced so many tons of honey and purchased so many supplies, but even *that* does not prove that it *paid* those farmers. One might think if it didn't pay them, they would not keep on keeping bees; and this reminds me of what an apple tree agent once told me. After telling me how many apple trees he sold every year in the same territory, I said to him: "I should think the country would soon be filled up at that rate." He answered: "We estimate that four-fifths of all the trees sold to farmers will be destroyed by stock, mice, and rabbits the following winter, making us that much more room to sell the following season." I should have thought the farmers would become discouraged, and quit buying, but he said: "No, they don't seem to; they all think they'll take better care of them next time." Just so the farmer-bee-keeper thinks he will take better care of his bees next year, the same as *I* have always thought.

Speaking of how much honey farmers produce, reminds me of another remark the same agent made while looking at my yard. He said: "It beats all how many bees are kept by farmers in the country I travel, and I have often wondered what becomes of the honey as I never see any in hotels or restaurants, and hardly ever on the farmer's table." I told him that the trouble was most of the farmers hardly ever got surplus honey enough for their own use. He said: "Well, I guess that must be the reason, then."

ALL BEE-KEEPING ASIDE FROM SPECIALTY IS NOT CONDEMNED.

Now, if I understand Mr. Hutchinson right, he doesn't mean that *no* farmer, nor *any one* that has any other property, should keep bees; or if he is keeping them to dispose of his other property and make his sole living from bees.

We must all be beginners some time; and some of us beginners, no matter whether doctors, lawyers, or farmers, may turn out to be specialist bee-keepers some time. I understand that he means, a practical bee-keeper *can* make his sole living from bees alone, if he understands his business, and it is not necessary for him to run some other business in connection to make a living. If he has some other property that brings an income, all the better. I never heard him say a person should invest every dollar he owned in one particular business; for instance, bee-keeping; but if he gives his entire attention to bees, he can make a good living at it.

My reason for writing this article is to give those who never tried farming and bee-keeping combined, my experience and opinion on the subject.

RIDGELAND, Wis., Feb. 1, 1905.

[In my estimation, the foregoing is the truest picture ever drawn of the average farm-bee-keeping. The beauty of it is, that it is not a fancy picture. As the camera faithfully portrays what stands before it, so Mr. Krause holds up to our gaze his own actual experiences. I presume some will think the picture over-drawn, and there is no doubt that much of the farm bee-keeping is far above this, but the bee-keeping specialist has little idea of the manner in which the average farmer keeps bees. Let a man serve as Inspector of apiaries two or three seasons, and it will open his eyes on this point. Farming is a jealous mistress—but not more so than bee-keeping—and the man who tries to serve both is often in much the same predicament as falls to the lot of the man who tries courting two girls.—ED. REVIEW.]

Editorial

R. L. Taylor, who succeeds myself as Director, is an experienced lawyer, as well as a successful and extensive producer of honey, and will be a valuable addition to the Board of Directors.

The Michigan Association of bee-keepers now has 45 paid in advance members, while there are quite a number of old members yet to hear from. Some may smile at the encouraging manner in which I mention this number—to such I will say that there have been years when the membership was in its "'teens."

Card Board Sections, two cases of them, filled with honey, were exhibited at Grand Rapids by Clyde Cady, of Grass Lake, Michigan. We may have to come this sooner than we expect, and it is well to begin experimenting. Some of the sections had been gnawed some by the bees, but it is likely that this can be prevented by coating the sections with paraffine, or some similar substance.

The Prizes awarded at the Grand Rapids convention, (Bro. York of the American Bee Journal, being the judge) are as follows: Best ten pounds extracted honey, first prize, W. E. Forbes, Plainwell, Michigan; second prize, W. D. Soper, Jackson, Michigan; third prize, C. A. Huff, Clayton, Michigan.

Best ten pounds comb honey, first prize, Oscar Smith, Alto, Michigan; second prize, J. W. Flieman, Holland, Michigan.

Best ten pounds comb honey produced in Danz. hive, first prize, W. E. Forbes, Plainwell, Mich.

Officers elected at the late Michigan convention were as follows: President, W. Z. Hutchinson, Flint; Vice President, Geo. E. Hilton, Fremont; Secretary-Treasurer, E. B. Tyrrell, Davison.

All Rootville is rejoicing over the advent of another little "rootlet" that put in an appearance Feb. 5th at the home of E. R. Root. What great bee man to name it after has not yet been decided, but there is no doubt it will prove worthy of whatever name is bestowed; in the meantime it will be tenderly cared for and heartily enjoyed.

The Northern Michigan Bee-Keepers' Association will hold its annual convention in Lady Maccabee's Hall, at Central Lake, on Wednesday and Thursday, April 5th and 6th. Editors Root of Gleanings, and Hutchinson of the Review will be present; also E. D. Townsend, Geo. E. Hilton, and many other practical apiarists of Northern Michigan. Hotel rates at The Tavern, $1.50 per day. Membership fees, $1.00 a year, and all members are also members of the National Association.

The Secretaryship of the National.

Several months ago, knowing that Mr. Brodbeck would not again accept the Secretaryship of the National, believing that I could do more for the Association as Secretary, than I could as Director, not dreaming that there was a member who would object to my holding the office, I had the courage to do an unusual thing: That of asking some of the members to vote for me as Secretary. The manner in which this was

done aroused some opposition, when, for the sake of harmony, I withdrew my candidacy, and asked my friends to cast their votes for some other man. By reference to the report of the result of the election, it will be seen that, with a knowledge of these facts before them, a majority of the members who voted, preferred that I should have that office. Under the circumstances, I shall accept, and do my very best to work in harmony with the other officers in building up the Association.

Mr. Geo. W. Brodbeck, of California, Secretary of the National Bee-Keepers' Association, departed this life Feb. 6th. Consumption was, I believe, the cause of his death. Mr. Brodbeck was an extensive and successful bee-keeper; universally liked and respected. One of the most delightful days that I spent in California was in his company, visiting his apiaries in the mountain canyons. The Review extends its sincere sympathy to the sorrowing friends.

The stockholders of the California National Honey Producers' Association, at their regular annual meeting, Feb. 15th, passed the following resolutions:—

Whereas—It has pleased the great Ruler of the universe to remove from our midst our esteemed President and brother bee-keeper Geo. W. Brodbeck, therefore, be it resolved, that we sincerely mourn our loss, and will long cherish his name and remember his many kind deeds and persistent endeavors in behalf of ourselves and the bee-keepers at large. We hereby tender our sincere sympathy to the bereaved. May the softening influence of time remove the grief and simply leave happy thoughts of his kindly life. Resolved: That a copy of these resolutions be sent to Mrs. Brodbeck and to the press for publication.

Names of committee,

Geo. L. Emerson,
T. O. Andrews,
G. F. Merriam.

A Flying Machine might be a nice thing with which to visit out-apiaries, as I mentioned last month, but a subscriber, in referring to the matter, adds: "Yes, and wouldn't she be the checker to chase run away swarms with ?"

Honey Packages for Members of the National.

The time has not come, perhaps never will come, when the National Association will deal in supplies, or sell honey, but it has already helped in both directions. For instauce, Manager France is now sending out to the members a printed price list at which they can buy direct from the manufacturers, packages for shipping or retailing honey. This list includes the friction-top cans of different sizes, the square and round 60-pound, jacketed cans, as well as smaller sizes of this style, also different styles of glass packages. The chief point of value in this lies in the fact that members of the National can buy these packages at lower prices than those allowed an outsider. A man who has use for many of these packages can save his annual dues many times over in the reduced prices he can obtain.

Two New Bee-Tools.

Many of the little things about the apiary, such as a smoker, a pry for opening hives and loosening frames, a brush for freeing the comb from bees, etc., do much to add to our comfort, and the efficiency of our work. For this reason I take pleasure in noticing two such implements that have come upon the stage within the last year. They are both the invention of Mr. H. S. Ferry, of Mt. Vernon, N. Y.

The first is that of a hive-opener. I don't know what kind of metal it is made of, but it will not bend or break with any ordinary usage. Its point is

like a wide, thick screw driver with a rounding point. It is very nicely shaped for getting between the top of a hive and the super, or between frames. There is a little tack-puller and ham-



mer in its make-up, as you will see, if you look close. These will come in handy if a frame should come apart.

The other tool is that of a double bee-brush. With it *both* sides of the comb may be brushed at the same time. The whole thing is so simple that the only wonder is that it was not thought of before this. First there is a long loop of spring-metal, something like an ox-bow, or hair pin. Upon the inner sides of the spring are fastened two opposing brushes of long bristles. A



slight pressure upon the spring, as it is held in the hand, brings the brushes in contact with *both* sides of a comb, when a downward sweep or two will free the comb of bees. Without having used either of these tools, I can only say that they have a decidedly practical look. Another thing must not be overlooked, and it is of much importance, and that is that each has a chain attached, and to the end of the chain is fastened an eyelet that may be slipped over a button, thus enabling the operator to always know where his tools are without having to hunt for them.

Price of the hive opener, 25 cts.; of the bee-brush, 50 cts. Address H. S. Ferry, 253 South 9th ave. Mt. Vernon, N. Y.

Specialty Versus Mixed Bee-Keeping.

A month or two ago there was an article in the Review from Mr. Strohschein of Wisconsin, in which he argued for the keeping of bees by farmers, to which I replied at some length. Mr. S. has sent another short article from which I take the following extract:—

"In my former article it was not my intention to down the specialist, but I do not agree with the editor in thinking that the man who is keeping bees in connection with some other pursuit, should either give up the bees or the other business. Many live in locations where, from some reason or another, out-apiaries would not be profitable, yet they have been perfectly successful with one apiary managed in connection with some other pursuit. Now, should these men sell out, and go to some other location where they can make bee-keeping their sole occupation? If they did, then the nectar in their old field might be wasted, unless, according to the editor's theory, some other specialist came in and saved it. This, however, is one of those things that work out nicer in theory than in practice. I am not one of those who think that every farmer ought to keep bees, but when there is a field where nectar is being wasted, I say, let some one save it, no matter whether he is a specialist, or has some other occupation. Now, friend H., don't you think this is fair? Really, it does not conflict with your plea for specialism, does it?"

Of course there are men who have made a success of keeping bees in connection with other pursuits. They probably engaged in something else first, then added bee-keeping, and finally the bees outgrew the other business, and it was dropped. I will admit that there are cases in which it may be advisable to keep bees in connection with some other pursuit, I have always admitted that, at the same time it seems as though it were self-evident that only the specialist can hope to reach the highest success, and that, as a rule, it is folly for a man to add

some new business to one in which he is already engaged, which is capable of absorbing all of his, time, energies and capital. Mr. S. speaks of localities where it would not be profitable to establish out-apiaries. I suppose there might be a spot where an apiary could be managed at a profit, yet the surrounding country would be unsuitable for out-apiaries, but I think such cases would be so few as to be scarcely worth counting.

Bro. S. brings up the old argument that has been used so often in regard to nectar going to waste, viz., that apiaries ought to be established here and there and everywhere, in order that the nectar that would otherwise be lost, might be saved. The object of keeping bees is not to *save nectar* but to *make money*. We don't care a flip whether the nectar is gathered or not, unless we can make money gathering it. For further views on this subject, read the article of Mr. Krause on page 77.

How Best to Secure Rapid Increase.

Time and again when I have urged bee-keepers to keep more bees they have said they would be glad to do so if they had the bees. I wonder if bee-keepers who use this argument really know how many colonies can be made from one in a good season—or in a poor season, for that matter, if a little judicious feeding is done? I have several times mentioned, in these pages, how I one year, by furnishing queens and foundation, built three colonies up to 33, and wintered them successfully—and this was done without any feeding. There have been reports of still greater increase, but it seems as though even this amount ought to satisfy any reasonable man. In the majority of instances, a bee-keeper can take ten or a dozen colonies of bees in the spring, and, by the use of all possible help, build them up into a good-sized apiary by fall. It may be well to consider the best methods of doing this.

The plan that I followed was this: When warm weather came, accompanied by a honey flow, and the three colonies were populous, I took three combs of bees and brood from each of two colonies, and two combs from the other colony, first hunting up the queens to be sure that I did not remove them, and put these combs of bees and brood into an empty hive. Full sheets of foundation were put in the places of the removed combs; and a laying queen given to the newly made colony.

This plan was continued through the whole season, viz., as often as enough combs could be spared from the colonies to make up a new colony, it was made, and a laying queen given it. As the bees came from several colonies, there was never any quarreling.

So far as resules are concerned, I doubt if there is a better plan. The only objection is the time consumed in finding the queens. In attempting rapid increase, one principle must ever be kept in mind, and that is, that bees and queens must not be separated. No queen must be left without bees to care for her eggs, and no bees must be left without a queen to furnish them with eggs.

Another thing, colonies must be kept strong enough to work to *advantage*. To illustrate: If we have two, two-from nuclei, better progress will be made if they be united.

I would like suggestions from my subscribers as to methods of making rapid increase. Particularly would I like to know the best plan that would be desirable, and, at the same time avoid as much as possible the opening of hives and the finding of queens. To illustrate: Suppose at the opening of the season, we start queen cells, and, when about ready to hatch, make up nuclei, giving each a mature cell. When the queens hatch, become fertile,

and begin laying, we can simply set a nucleus in the place of a populous colony, moving the full colony to a new location, and we have two colonies instead of one, with no opening of hives or hunting of queens. This plan may be carried out the whole season. Will some one tell us the objections to this plan, if any, and describe a better one if there is a better one?

Result of the Recent Election for Officers in the National.

I have received from Mr. W. F. Marks, Chairman of the board of Directors, a report of the result of counting the votes sent to the Secretary last November. From this report I make the following extract:

To the members of the National Bee-keepers' Association: The chairman of the Board of Directors is in receipt of a letter from Mrs. G. W. Brodbeck, dated Feb. 11th, 1905, announcing the death of her husband, Secretary G. W. Brodbeck, and enclosing the following result of the ballot taken last November for officers of the National Association.

Whole number of votes cast for President, 355; of which J. U. Harris received 232; C. P. Dadant, 89; Dr. C. C, Miller, 11; the remaining 23 votes being scattered among 17 persons.

Whole number of votes cast for Vice President, 355; of which C. P. Dadant received 251; J. F. McIntyre, 46; J. U. Harris, 9; the remaining 49 votes were scattered among 21 persons.

Whole number of votes cast for Secretary, 359; of which W. Z. Hutchinson received 203; G. W. Brodbeck, 95; G. W. York, 23; W. H. Laws, 15; the remaining 23 votes were scattered among 15 persons.

Whole number of votes cast for General Manager, 349; of which N. E. France received, 336; L. F. Scholl, 4; R. L. Taylor, 3; the remaining 6 votes being scattered among 5 persons.

Whole number of votes cast for Director to succeed E. Whitcomb, 165; of which E. Whitcomb received 100; H. H. Hyde, 26; F. Muth, 8; the remaining 30 votes being scattered among 18 persons.

Whole number of votes cast for Director to succeed W. Z. Hutchinson, 256; of which R. L. Taylor received 102; W. Z. Hutchinson, 83; G. W. Brodbeck, 18; the remaining 53 votes being scattered among 21 persons.

Whole number of votes cast to succeed Udo Toepperwein, 311; of which Udo Toepperwein received, 189; E. S. Lovesy, 50; H. H. Hyde, 24; the remaining 48 votes being scattered among 17 persons.

J. U. Harris, having received a plurality of the votes cast for President, was elected President.

C. P. Dadant, having received a plurality of votes cast for Vice President, was elected Vice President.

W. Z. Hutchinson, having received a plurality of votes cast for Secretary, was elected Secretary.

N. E. France, having received a plurality of votes cast for General Manager, was elected General Manager.

E. Whitcomb, R. L. Taylor and Udo Toepperwein, having received the greatest number of votes for Directors to succeed those whose terms expire, were elected Directors.

The result of the ballot should have been declared last December, but, owing to the fatal illness of Secretary Brodbeck, it has been delayed.

W. F. Marks, Chairman Board of Directors, N. B. K. A., Feb. 23, 1905.

Overstocking.

I have a letter from Mr. Strohschein of Wisconsin, in which he takes issue with Mr. Alexander on the subject of overstocking. He thinks that Mr. Alexander's point that the bees may visit the same blossoms thousands of

times in one day is not well-taken, as the bees may be working with great apparent vigor, yet consume hours in getting a single load. As an illustration, he says: "If we should send out a flock of school children to pick berries, they might fill their baskets very quickly the first day; but, suppose that on the next day, the children from two or three schools should pick over the same field, then, upon the third day, the children from the first school should again appear upon the scene, they might have to work two or three times as long to fill their baskets as they did the first day. It is just so with the bees."

While Mr. Strohschein's illustration is a fair one in most respects, it is not *exactly* parallel. When a berry is picked, there is never another grows on the same stem—it is gone forever. I think it would be more appropriate to compare the nectar in flowers with the manna of old, which had to be gathered by a certain time of the day or it was evaporated and lost. There are *times* when the flow of nectar is so rapid and abundant, that it is almost impossible to get bees enough upon a given area to overstock it. Some very interesting experiences were given upon this point at the late Michigan convention. One man had an apiary of 250 colonies that stored a large crop of honey in a very few days, and no bees were seen more than three-fourths of a mile from home. Another had secured a large crop with 550 colonies working practically on the same range. Of course, there were reports of small yields of honey with both large and small apiaries, but the pertinent point brought out was that there were times when the flow of nectar is so great that it is impossible to gather all of it. There are times when the nectary of a blossom might be compared to a well of water—as often as it is pumped out, it immediately fills up again.

But it must not be forgotten that these times of plenty do not last through a whole season—sometimes do not occur at all. The general experience, from all over the whole country, is that the yield of almost any locality may be lessened by the bringing in of too many colonies; but just how many colonies it is profitable for one man to keep in one apiary has never been settled, and never will be settled, as localities, seasons and methods differ. My advice or plan would be to keep on increasing an apiary until the profits were lessened by the increase in numbers. By this I don't mean the yield per colony has been lessened, as this might happen, yet the yield in the aggregate, and the profits, might still be increased. I mean that, when, considering the capital and labor employed, we don't make so much money because the locality is overstocked, then I would start another apiary. It may require quite a little experience to decide this, and, even then, it can't be decided definitely for each year; an approximate decision is the best that we can get.

A correspondent in a late issue of Gleanings criticises the writing and publishing of such reports as those of Mr. Alexander. He thinks they are misleading and likely to do harm. I think they are no more likely to do harm than the advice to keep not more than 100 or 150 colonies in one location. A man may lose by keeping too *few* bees just as he may by keeping too *many*, and the publishing of the profitable keeping of large numbers of colonies in one apiary may lead men to experiment and learn that *they* can profitably keep a larger number of colonies than they thought they could.

Mr. Strohschein refers to the thousands of acres of buckwheat in the vicinity of Mr. Alexander's apiary, and thinks this is the secret of his success—not some new theory of nectar-secretion.

The Michigan Convention.

The Grand Rapids convention was an excellent one. It was the best attended of any that has been held in several years. In the first place, it was well-advertised. Three thousand circulars were printed setting forth the advantages of attending, also calling attention to the prizes that were offered. These were distributed, mainly, by placing them in the circulars of supply dealers. The Secretary also sent out a circular showing the advantages of belonging to the Association. These were sent to all of the old members, and to a fresh list of Michigan bee-keepers that I furnished him. I believe he sent out 300 of these circulars. So far as they would go, he also sent out what were left of the little pamphlets that were gotten out last year. Very explicit notices, as well as editorial notices, had been published in the bee journals for some two or three months before the meeting. Notices also appeared in the general papers and the farm-journals of the State. Many private letters were written, urging members to attend. Reduced rates were secured on the railroads. Prizes were offered on both comb and extracted honey. It was made known that the editors of three of the prominent bee journals would be present, as well as prominent bee-keepers from different parts of the State. In short, there was a sort of euthusiasm put into the very air, that made bee-keepers want to "get there." I go thus into detail in explaining these things, as it is just such preliminary work as this that is the making of a convention.

One feature over which the members felt the most jubilant, is the fact that the getting out of a little pamphlet last year, giving a few hints about honey production, the care of honey, etc., accompanied by a list of the members, together with their addresses and the amounts and kinds of honey that each had for sale, had done much in the way helping them to sell their honey. Not much had been done in the way of advertising this pamphlet, as had been expected to be done, in the daily papers. A lack of funds had prevented this. Not quite $2.00 had been thus expended in "liners" asking consumers to write to the Secretary for a list of the members of the Michigan State Bee-Keepers' Association who had honey for sale. Not many requests had been received. The idea had been to try and reach actual consumers, but there had been greater success in reaching retailers of honey. Only 1,000 copies had been printed. To send a possible purchaser one of these pamphlets, calling attention to the sender's name as a member of the State Association, sometimes helped to establish confidence. This year, 5,000 pamphlets will be printed; several pages of advertising being taken by dealers and others, which will nearly, if not quite, pay the expenses of printing.

The object of this scheme is, of course, to find some selfish object that will tend to hold the members together; to induce them to send in their dues year after year, even though they may not be able to attend the convention. It is fulfilling the object; as several old members who were not in attendance sent in their dues, and some have been received since the convention adjourned. A bee-keeper who is not now a member can send $1 00 to the Secretary, Mr. E. B. Tyrrell, Davison, Michigan, and this will not only make him a member of the Michigan Association, but also of the National, and, sometime next August, this bee-keeper will receive notice from the Secretary asking for a report in regard to his honey crop. If he will send in his report as to the kind and quality, how put up, etc., it will go into this pamphlet, of which 5,000 copies will be

printed and sent out to dealers and others who wish to buy honey.

Nothing happened to mar the pleasure of the meeting, which was solid discussion from beginning to end. This way of conducting a convention is very good if there are plenty of talkers present, or if the presiding officer knows how to stir up those not inclined to talk. Little slips of paper are passed around among the audience and each requested to write some question, or questions, when they are gathered up and read, one at a time, and discussed. In this way, any one who wishes a question answered can be accommodated; and there never seems to be a lack of subjects.

The convention adjourned to meet at the time and place to be selected by the executive committee. It might not be out of place to mention that, for the past two or three years, we have been meeting in connection with the State Dairymen's Association; the two Associations furnishing sufficient attendance to secure the desired low rates on the railroads.

EXTRACTED DEPARTMENT.

SETTING HIVES IN PAIRS.

How it Helps in Practicing Shook-Swarming.

It is a little early yet to be practicing shook-swarming, but none too early to be considering the preliminaries, especially when one of them may be how the hives are to be arranged when the bees are taken from the cellar. Mr. M. A. Gill, in an article in the Rural Bee-Keeper, tells of the advantages of having hives arranged in pairs, the principle one of which is that it allows of the practicing of shook-swarming in such a way as to avoid increase if so desired, or to simply make one new colony from two. Here is what he says:—

"You have asked me to give my reasons for arranging my colonies of hives in pairs. First I will say that it is a great convenience in doing the work, as one hive is a work bench for the operator while he is manipulating either of the pair. Again, where hives are set in pairs, and the pairs at least 8 feet apart, there is not so much loss of queens as when hives are set in a long continuous row. If two rows of pairs are set, say, facing south, then two rows facing east, then two rows facing south again, it will assist the queens in finding their homes, besides keeping the working force more evenly distributed throughout the apiary; for it is a fact that the greatest number of bees stop in the front rows during windy weather, especially when there are a number of rows, and the working force all come in from the same direction; but when part are turned east and part south they come in from two directions and are less apt to become confused.

It is very convenient to have hives sitting in pairs where shook-swarming is to be practiced. To illustrate: we will say here is a pair, and both are making preparations to swarm, but we do not want any increase. We realize, however, that something must be done, else they will swarm. So we will simply set both hives back from their stands, and put in their place a new hive that has been made ready to receive a swarm. Now find the queen in one of the old colonies, and hang her with a frame of brood in the new hive; then shake all remaining bees in the old swarm into the new one, leaving just enough to care for the brood. Now find the queen in the other colony, and set the frame she is on away somewhere, temporarily, then shake all the bees in that hive (except enough to care for the brood) in with the one where you shook the others, shaking out all the nectar you want to, completely daubing the bees of both colonies as you shake them together into the new hive. Now take the queen that you set away and hang her back in the hive

where she came from, and carry the hive somewhere to a new stand; then go back and get the other hive of brood and set it on top, or close beside the one just carried away.

Now we have on the old stand a young swarm that has all of the flying bees from both old ones, and it will make an immense amount of honey if there is a honey flow and it is properly cared for. On the new stand we have two hives of brood, and neither one can swarm, because neither has any field bees nor will have for ten days. Do not allow the queenless one to develop any queen cells; and in 14 to 18 days shake all the bees from the queenless colony in with the colony that has the queen, carry the empty hive away, and use the combs somewhere else. They will contain a little brood that is not yet hatched, but it will do no harm if you want to use it anywhere.

With this system we must always know that we are not disturbing foul combs. It will be noticed that both the colonies have swarmed, yet there has been no increase. Both colonies should give a splendid account of themselves in storing honey, and if you fail the first trial, the fault is in yourself and not the system.

SPECIALTY IN BEE-KEEPING.

Some of the Advantages as set Forth by the Editor of the Rural Bee-Keeper.

For a long time I have plead for specialty, and tried to show bee-keepers what they were losing by fussing along with a few bees, instead of spreading out and devoting their whole time and attention to the business. For some reason the other bee journals have been backward in the advocacy of what, it seems to me, ought to be apparent to the most superficial observer, but, at last, one of them, the Rural Bee-Keeper, has joined in the good work by printing an editorial from which I make the following extracts:

If bee-keepers will produce ten times the honey now secured there will be a more satisfactory market. They may not get more per pound, but they will get more *money*.

I wish to confirm my opinion as to the market for honey being improved by producing more honey, by drawing a few comparisons from life. Take the potato for instance. I can remember, 20 to 25 years ago, when potatoes were not worth digging. One reason was that that the hoe was too slow a tool to dig with; then came the potato fork and finally the 4-horse digger that rolls out 5 to 8 acres a day. With the potato digger came the starch factory. We had first one, then two, in our town. Our acreage ran up to 3,000, tributary to River Falls. We sold them for 15 cents, but with proper soil and cultivation we produced 300 bushels to the acre, so $45 an acre was not so bad a crop; then there was a failure in the potato crop in some localities, and our crop dropped to an average of 100 bushels to the acre; then the price went up to 40, 50 and 60 cents a bushel, a trifle better than chinch-bug wheat.

One more comparison, the dairy cow. Every farmer has kept a few cows, and and taken a jar or two a week of butter to town and traded it off for groceries. Today the average farmer milks 10 to 20 cows, and the cows keep him. The cream separator has done its work; it lightens the work and makes it possible to do more with the same labor. The average bee-keeper keeps a few bees. The time has come when a bee-keeper can care for 500 to 1,000 colonies of bees with very little help.

Hutchinson says the best thing to go with bee-keeping, to make up a living, is more bees, and if we can take our potato and our cow experience for anything, he is right. Keep more bees. This year there has been, I understand, four full cars of honey loaded in Pierce and St. Croix counties; cash was paid at the car door for every pound. There was but one buyer and he had it comparatively his own way. Produce 40 cars of honey in these two counties, and there will be competition among buyers, because buyers can afford to come and bid for a lot of choice honey.

M. A. Gill, of Longmont, Colo., is one of the most successful honey producers in America today. With the aid of his wife and one helper, he cared for 1,000 colonies of bees last season. His crop was two car loads of comb honey. Mr. Gill says that when he produces a crop of honey, he then wants to sell it to some fellow who wants to

deal in pints and pounds, and he devotes himself to getting ready to produce another crop of honey.

When you have but little honey, or any other commodity, to sell, you must *hunt a market*, but when you produce large quantities of the finest honey, the market will *hunt you*. There is a maxim among traders that anything that is brought right is half sold. We, as bee-keepers are purchasing our honey crops too *dearly*. We use too much labor, and labor means money, where rightly directed. Gill, Coggshall, Atwater, Facey, France, and many others, are buying their honey with much less labor, consequently, they make sales at a price that takes our breath away, and still their *bank account grows*, while we struggle, as it were, for an existence. We have as good flora as they, but we *lack the bees* —the busy toilers to gather the sweet. If every fourth person now engaged in bee-keeping would operate all the bees for the four now engaged, the other three could devote their time more satisfactorily to other pursuits, and No. 4 would increase his net income more than four fold.

Again, as with the potato and the cow, I think we are using old, fogy apparatus which makes our honey cost too much, because we handle too many pieces. The keeping of more bees by one person involves the establishment of out-yards. This necessitates the controlling of increase by shook-swarming in some form; and the question of how to tell with the least amount of labor, when a colony is going to swarm, or preparing to swarm, is the question that is going to determine the cost of producing honey.

Increasing the number of bee-keepers by encouraging farmers and others to engage in the business may be beneficial to the publishers of bee journals, and the dealers in supplies, but I am working to increase the prosperity of existing bee-keepers, instead of increasing their numbers.

INCREASE is a handsome little book telling how to form new colonies without breaking stocks. A simple, sure, satisfactory plan. 25c.

BABY NUCLEI tells how to mate many queens from sections with a mere handful of bees. 42 pages, 20 pictures. Plain, cheap, simple. 50c.

QUEENS and **QUEEN REARING OUTFITS FOR SALE** Golden-all-over and Caucasian Queens. Circulars Free.

E. L. PRATT, Swarthmore, Penn.

Honey Queens.

Laws' Improved Golden Queens, Laws' Long-Tongued Leather Colored Queens, and Laws' Holy Land Queens.

Laws' queens are doing business in every State in the Union and in many foreign countries.

The demand for Laws' queens has doubled any previous season's sales.

Laws' queens and bees are putting up a large share of the honey now sold.

Laws' stock is being sold for breeders all over the world. Why? Because it is the best to be had.

Remember! That I have a larger stock than ever; that I can send you a queen any month in the year and guarantee safe delivery; that I have many fine breeders on hand. Price, $3.00 each. Tested, each, $1.25; five for $6.00. Prices reduced after March 15. Send for circular.

W. H. LAWS, Beeville, Texas.

Bees and Queens

Have you tried my queens? They are as good as money can buy; they are daughters of imported mothers; and no pains have been spared to mate them purely. When you send me an order I fill it promptly and guarantee perfect satisfaction. I have the three-banded Italians, goldens, Cyprians, Carniolans, Holy Lands and Albinos.

Untested queens, of either race, 75 cts. each; tested, $1.50; breeders, $3.00. Special prices on lots of a dozen or more. Two-frame nuclei a specialty.

B. H. STANLEY,
7-04-tf Beeville, Texas.

Why he bought our

QUEENS.

I asked Mr. L. F. Weaver what he could say of our queens, and tell the truth, and here is his reply:

Shadeland, Ind., 2-8, 1905.

Friend Michael.

We received our first queens from you in 1903,—you will find that you sent me more queens in 904, and we expect to order a greater number in 1905. Why? Because your queens have met all our requirements, their workers being gentle, uniform in color and size, energetic hustlers and prosperous, in colony and store. We know not your method of rearing, and it makes no difference to us so long as we get such good and prolific queens

Yours respectfully,
L. F. WEAVER.

J. F. MICHAEL,

3-05-3t R. F. D. No. 1, Manchester, Ind.



The Tourist Girl

Nice Enough For Anybody

Ladies traveling to California appreciate the delightful home comforts of our superior Tourist Pullmans.

Harvey serves the meals

Many other exclusive and distinctive features.

Ask General Passenger Office ATCHISON, TOPEKA & SANTA FE Railway, Chicago, about very low one-way rates to California, March 1st to May 15th.

QUALITY

Some of our competitors have been trying to cast a suspicion upon our goods, by stating that the quality of the bee supplies furnished by us, at a less price than is usually charged for same, is of lower quality.

WE DENY THIS and defy any one to prove that such is the case. All goods manufactured by us are guaranteed to be of standard quality, irrespective of the prices.

The cause for selling our product at lower prices than others, is very simple. We are at the heart of the lumber district, consequently do not have to pay freight for several hundred miles on raw material and also prepay return freight on the manufactured product.

We have one of the most modern plants in the country, running by water power. This saves us the expense of fuel. Altogether we are able to sell at 25 per cent. less than the average manufacturer is able to do.

We guarantee you absolute satisfaction or refund your money.

DOLL'S BEE SUPPLY MFG. CO.,

Power Bldg. Minneapolis, Minn.

Get Them Right Now.

Send an order right now for a full-sized box of Yellowzones. You need them.

You intended to before, but, somehow, put it off. Do it now. Do it at my risk.

Your dollar is safe. It goes right back to you with another box, if you are not pleased.

You need them in your home just as I do in mine.

If you keep but ONE REMEDY in the House it should be Yellowzones.

YZ

A N. Y. City man recently wrote:—"I find, this winter, that **YZ** are the best thing I ever used for myself or family for colds. Far better than Bromo-Q—— and none of its depressing effects.

It begins to dawn upon me that **YZ** are a great remedy."

I. H. Vail, a traveling man, Feb. 13, '05. "I have cured many a weary traveler, and all gratis. Brought a case of Grip out in 2 hours at New Phila., O., and he under the Dr's care, with orders not to turn in bed."

These are Bee-Keepers.

F. H. Drake, E. Brockfield, Mass., Feb. 4, '05. "Yellowzones proved so good I dont want to be without them."

Mrs. L. G. Clute, Manchester, Ia. Jan 28, '05. "For the Grip we think there is nothing better."

H. Crowther, N. Kingsville, O., Feb. 11, '05. "The 25c box was worth dollars to us."

F. Coverdale, Maquokata, Ia., Feb. 11, '05. "Your Zones are certainly wonderful."

The Way to get Them is to

Get Them Right Now

Mail a Dollar Bill or any kind of a Dollar, with address and I will do rest.—Thanks.

W. B. HOUSE, M. D. - - - - - DeTour, Mich.



THE FOUNTAIN PEN

has the

"LUCKY CURVE"

The "lucky curve" is a curve in the feed pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business-

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself, and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several other kinds. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pens varying in price from $1.50 to $10.00, depending upon the finish of the handle. My pen cost $2.00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,

Flint, Michigan.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

---

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with orders of $5.00 or over. Send for free list.

W. D. SOPER,

R. D. 3 Jackson, Mich.

The Bee and Honey Co.

Wishes to sell you all of the bees and queens that you may need the coming season.

Catalog describing the six different races of bees that we breed, sent free. Get our prices before buying.

THE BEE AND HONEY CO.,

2-05-tf Beeville, Tex.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

Leather - Colored and Carniolan

QUEENS,

mated with improved, Italian drones, at 50 cents each. For full particulars send for circular.

CHARLES KOEPPEN,

6-04-tf **Fredericksburg, Va.**

The Best Bee Goods in the World
ARE LEWIS GOODS

BEWARE
WHERE YOU BUY YOUR
BEEWARE
LEWIS
WATERTOWN U.S.A.
MAKES THE FINEST

SEND FOR NEW CATALOGUE

NEARLY 100 PAGES

G. B. LEWIS CO., WATERTOWN, WIS.

Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

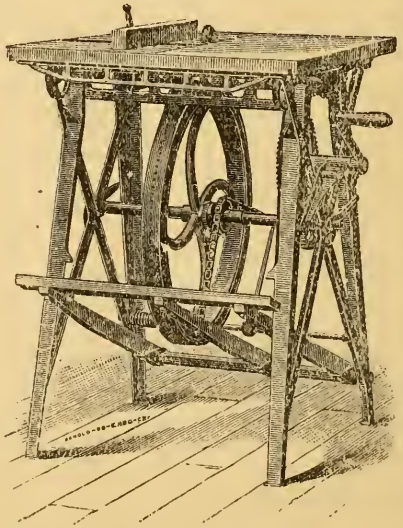
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

4-04-19t



Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

South Western

BEE-KEEPERS

SAVE MONEY

Get our prices on all Bee-Keepers' Supplies before you buy. Send for Catalog We carry a full line, and will not be undersold.

HONEY CANS AND FOUNDATION —We represent the American Can Co. in Texas, as their sole and exclusive agents for honey cans. We also handle Dadant & Son's world-famous Comb Foundation, exclusivly. Get our prices before buying.

BEES AND QUEENS, in any quantity at all seasons ot the year. Let us quote you.

HONEY AND BEESWAX bought and sold. We will buy your honey crop; and we especially want your beeswax at the highest market price.

THE GRAHAM-HYDE BEE CO.,

San Antonio, Texas.

H. H. Hyde Mgr. 1-05-5t

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

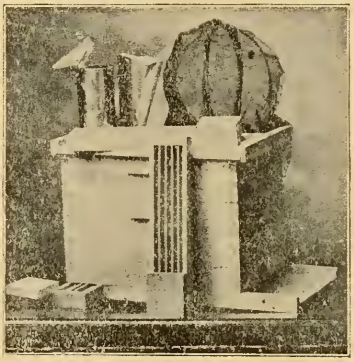
Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin



Dovetailed Hive Showing the Eastman Feeder in Position.

There is a growing demand for a feeder that can be used for simulative feeding in spring; one that can be left under the hive all summer, and one that can be used at all times without exciting robbing. The

EASTMAN FEEDER

fills the bill. We show one in place, one standing on end and one on cover.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

I CAN SELL GOODS CHEAPER than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small country town where labor is cheap; I have new, up-to-date labor-saving machinery run by water power—the cheapest power in the world. Not only will I sell goods cheaper, but ***I will pay the freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering.

THE RURAL BEE KEEPER

A monthly bee journal devoted to the interest of the Bee Keepers of America will teach you how to make money with Bees. May number tells about feeding bees. July is devoted to Queen Rearing; August to marketing honey. September to preparation for winter; October, the wintering problem. I aim to give big value for your money. Swarming, and how it is being controlled to the cash benefit of the Bee Keeper, is the subject upon which the June number treats. It will be the purpose of the Rural Bee Keeper to champion the cause of the small country bee keeper, to show him the way to make money out of bees, by first showing how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense, and later will show him how to cash his crop. Subscribe now. Begin with the first issue and get fifty dollars worth of good sound information in one year for fifty cents.

IN THE FRONT RANK

Beverly, N. J., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

I must congratulate you on the reading matter you have in the Rural Bee Keeper, it is all that could be desired, and just what I have been wanting. I take seven Bee papers and consider yours only equaled by Gleanings and the Review. Every number so far has been worth more than the subscription price to me. I do not see how you can fail if the present standard is kept up. Wishing you success, I remain,

Yours truly,
JAMES T. FENNELL.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY—We quote as follows: Fancy white, 11 to 11½c; No. 1 white $2.75 per case; No. 2 white, $2.60; fancy amber $2.50; white, extracted 6½c; amber 6c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
Mch. 8, 1905. 423 Walnut St., Kansas City, Mo

CINCINNATI—There is little, if any, improvement in the honey market here since our last quotation. We hope to render a more encouraging report soon.

We quote amber extracted in barrels and cans at 5½ to 6½c. White clover at 7 to 8c; fancy white comb honey at 12 and 13c; beeswax 28c.

THE FRED W. MUTH CO.
Mch. 10-05 51 Walnut St., Cincinnati, Ohio.

PHILADELPHIA—Since our last quotations, honey has been gradually declining, and at the end of the season for comb honey especially, commission men and holders are offering at most any price to clear out their stock. We quote as follows: Fancy white 14c; No. 1, 11 to 12c; amber 11 c; white extracted 7 to 8c; amber, 5 to 6c; beeswax 28c. We are producers of honey and do not not handle on commission.

WM. A. SELSER,
March 10, 1905. 10 Vine Street,
Philadelphia, Pa.

CHICAGO—No material change from our quotations in last issue except that we have moved, during the past month, a good deal of Colorado Comb Honey, and are almost entirely cleaned up on Wisconsin stock.

If producers still have honey to ship, we advise letting it come forward.

Demand for strained honey limited, and supply equal to demand. We quote as follows: Fancy white, 13c; No. 1 white 11½ to 12½c; white, extracted 6½ to 7c; amber 6 to 6½c; bees wax 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
March 7, 1905. Chicago, Ill.

KANSAS CITY—Market remains dull and inactive, and we do not look for any particular change here soon. We quote as follows: Fancy white $2.60 per case; white extracted 5 to 7c; beeswax 28c.

C. C. CLEMONS & CO.,
March 7, 1905 Kansas City, Mo.

CHICAGO—There has been somewhat of an increase in the number of sales during the past four weeks, yet the volume, has not been large, while prices are if anything lower than in January, especially on other grades than white clover. Fancy grades of white comb, bring 12½ to 13c; No. 1, 12c, with some off in color, 8 to 10c; extracted white 6 to 7c, amber 5½ to 6½c, the price being governed by quality, flavor and package. Beeswax if clean and good color 30c per lb.

R. A. BURNETT & CO.,
Mch. 8, 1905. 199 So. Water St.

BUFFALO—Strictly fancy one-pound comb honey sells fairly well at 13 to 14c, but all other grades must be cut hard to move, but can be sold if so cut. Can use some fancy comb. Fancy white 13 to 14c; No. 1 white, 11 to 12c; fancy amber 9 to 10c; No. 1 amber 8 to 9c; fancy dark 8 to 9 c; No. 1 dark, 7 to 8c; white extracted, 4 to 6c; beeswax 28 to 30c.

BATTERSON & CO.,
Feb. 6, 1905. Buffalo. N. Y.

NEW YORK—Trade is very quiet especially on comb. Have abundant stock and would not advise shipping at this time. We quote as follows: Fancy white 13 to 14c; No. 1 white 11 to 12c; fancy amber 10c; fancy dark 9 to 10c; white, extracted 6 to 6½c; amber 5½ to 6c; dark 5c; beeswax 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
March 6, 1905. New York.

TOLEDO—The demand on comb honey is better for the last two weeks than it has been at any time during the winter. We quote fancy white honey at 12½c to 13c; No. 1, 11c to 12c; amber 9 to 10c. Extracted, white clover, in barrels, 6½ to7c; in cans 7½ to 8c. Amber extracted in barrels, 5 to 5½. Beeswax 25 and 28c Woutd state that there is a good demand at present for dark amber extracted honey and we would advise any that have it to sell, to dispose of it as soon as possible. The market on comb honey is getting pretty well cleaned up, and we look for no large receipts during the remainder of the season.

GRIGGS BROTHERS,
March 6-'05 Toledo, Ohio,

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases. Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

2-'05-tf

WE WERE AWARDED A

Gold Medal

ON OUR BEE-KEEPER'S SUPPLIES

AT ST. LOUIS, 1904.

Also at Paris Exposition, 1899, and Trans-Mississippi Exposition at Omaha, 1900. Highest awards at World's Fair, Chicago, and Pan-American Exposition, Buffalo.

ROOT'S GOODS ARE PRIZE WINNERS AND ARE SOLD THE WORLD OVER.

Assiniboia
Austria
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Barbados
Belgium
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British Guiana
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Egypt
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Natal
Norway
Palestine
Russia
Rhodesia
Scotland
Siam
Spain
Sweden
Syria
Tasmania
Trinidad
Vaal Rive
Venezuela

In all States and Possessions of the United States and Provinces of Canada.

OUR CATALOG FOR 1905

is now on the press. If you wish a copy at once drop us a postal. It takes some time to print and mail to our list of 250,000 bee-keepers.

THE A. I. ROOT CO., Medina, Ohio

BRANCHES:

Chicago, Ill., 144 East Erie Street
Philadelphia, Pa., 10 Vine Street
New York City, N. Y., 44 Vasey Street
Syracuse, N. Y., 1635 W. Genesee Street
Mechanic Falls, Maine.

BRANCHES:

St. Paul, Minn., 1024 Mississippi Street.
San Antonio, Texas, 1322 So Flores. St.
Washington, D.C., 1100 Maryland, av., S W
Havana, Cuba, Obrapia 14.
Kingston, Jamaica, 115 Water Lane

April, 1905.



At Flint, Michigan—$1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 207

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Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heed ed. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, April 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(.50)	1.35
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
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Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
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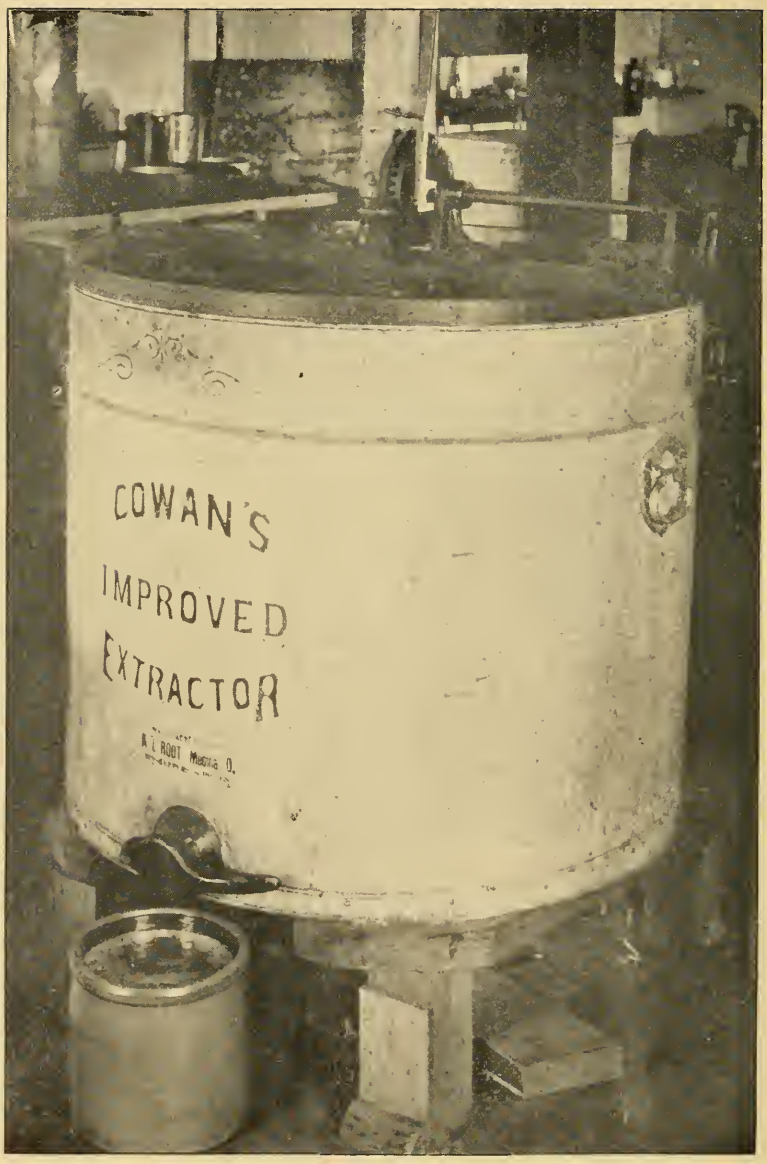
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An Extractor with Slip-Gear and Foot-Brake

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, APRIL 15, 1905. NO. 4.

An Extractor with Slip-Gearing and Foot-Brake.

BY W. Z. HUTCHINSON.

THE A. I. Root Co. is now getting out some new, automatic, reversible, honey extractors, and furnishing small gasoline engines to run the larger sizes. Scattered over the country are many of the old style, two- and four-frame, automatic, reversible Cowan extractors. Some of these are furnished with a brake, but it must be operated by the hand instead of the foot, and none of them are furnished with a "slip-gear," by means of which the reel can be allowed to revolve free from the friction and rattle of the gearing.

Last fall, when visiting Mr. James Heddon, of Dowagiac, Michigan, I took a photograph of his honey extractor which he has changed over and improved on the points which I have mentioned. In the first place, the central shaft, that carries and supports the reel, is lengthened and extended down through the bottom of the extractor, and runs in a bearing fastened to the floor. The extractor is securely fastened to a platform about a foot in height. Beneath this platform is a brake that is arranged as follows: Two wooden wheels, perhaps a foot in diameter are placed below the extractor, the shaft passing through their centers. The upper wheel is firmly attached to the shaft; the lower one is fastened to the upper side of the inner end of a piece of two-inch plank, perhaps 2½ feet in length, the plank resting upon, and turning on a fulcrum, or pivot, placed upon the floor underneath it, at about its middle. The outer end of the plank projects slightly beyond the platform upon which the extractor stands. If the foot is placed upon the outer end, the inner end tips up, after the fashion of a teeter-board, and brings the two wooden wheels together with great force, stopping the reel as quickly as it is possible without doing some injury. To hold the extractor in place, and allow this pressure to be exerted, a piece of timber, perhaps six inches square, extends from the floor

above, down upon the cross-bar to which the gearing is attached.

The bearings for the crank-shaft are removed, and new holes made for the bolts that hold them to the cross-bar, and then replaced in such a position that the shaft can be slipped back so as to throw the gear wheels out of connection. To hold the wheels in gear a metal fork is attached to a piece of spring-metal fastened to the piece of timber that holds down the extractor. The spring holds the prongs of the fork each side of the shaft, and when the fork is in this position the wheels are held in gear. A handle attached to the spring allows the operator to easily and quickly pull back the fork and catch it against the shaft-bearing, where it remains securely, until a slight touch releases it, when the spring forces it back upon the shaft, where it again crowds the cog wheels into gear.

The management is as follows: A set of combs is upcapped, placed in the extractor, the motion run up to a high speed, then the crank-shaft slipped out of gear, when the heavy combs and reel will spin like a top; *silently* but effectually emptying the combs while the operator is busy uncapping more combs. When he has half enough combs uncapped for another set, if the reel has not stopped revolving, he places his foot on the brake, stopping it *immediately*, and reversing the pockets, when the gears are again slipped together, the speed run up, the gears slipped apart and the reel allowed to spin while the rest of the set of combs is being uncapped.

FLINT, Mich., March, 26, 1905.

Hiving Swarms on Starters When Producing Comb Honey.

BY E. F. ATWATER.

THE May and June numbers of the Review for 1904 were especially interesting to me, because of the articles on "shook-swarming and comb honey production" by E. D. Townsend. I have quite a number of the regular Heddon Hives, of eight-frame width, also the same thing nine frames wide, and one inch deeper than the standard Heddon. So when Mr. Townsend advised hiving on a Heddon case, full of *comb*, with an empty case beneath, and one or more supers with full sheets of foundation and "bait-combs" above, I immediately put the method to a practical test, in my "Shepard" yard, three miles east of Star, Idaho.

TROUBLES THAT SOMETIMES COME WHEN SWARMS ARE HIVED ON COMBS INSTEAD OF STARTERS.

I followed Mr. Townsend's advice, to the letter, on a number of colonies. On my next visit to this yard, six days later, imagine my surprise, upon examining the hives, to find that most of these shook-swarms had partially, or wholly, neglected the comb-honey supers, filled the Heddon combs with honey and a little brood, and built comb from the bottom-bars of the set of Heddon combs, nearly or quite filling the empty case with new comb honey, and brood! Then, again, imagine the

sticky job I had on my hands, and how much better it would have been to have filled that empty Heddon case with frames supplied with small starters; for even though the plan failed, the combs built would have been in shape to use.

Yes, the bees went into the supers with a rush when the lower case was removed, but they were, even then, a week or more behind swarms hived on the Hutchinson-Gill plan; that is, on starters rather than combs.

At the next visit to this yard, these shook-swarms, on the Townsend plan, were again inspected, for past experience in hiving swarms on combs, led me to fear trouble, and—I found it. Several had started queen cells with intent to swarm again. This is so often the case here, that it is surely folly for me to continue longer in my efforts to secure *best* results by hiving on *combs*, (and this regardless of whether or not contraction is practiced) in my comb honey yards.

It can be managed successfuly in a locality like this, only by hiving with a ripe cell or a virgin queen; and, in this case, sealed brood, *a la* Aikin, is far better than empty combs; however, I use the Aikin plan very little.

Full sheets of foundation also have been thoroughly tested for several seasons, but too many colonies will try to swarm again; so, after making hundreds of shook-swarms, during a period of several years, hiving on combs, full sheets, and starters, I *know* that it is best for *me* (with my present knowledge) to hive on starters in the brood frames, usually giving one or two combs of honey or brood to the forced swarm. Such colonies seldom desert (I clip my queens); and never, so far as I can remember, has any such colony prepared to swarm again, the same season.

ADVANTAGES OF USING STARTERS.

By hiving on starters it is seldom necessary to examine the brood-nest afterwards, until one wishes to see that the combs if not perfect, are made so. Combs so-built sag less, and are more satisfactory, in regard to getting brood reared close to the top bars, than are the average combs built on full sheets of foundation.

DRAWN COMBS ALL RIGHT IN HIVING SWARMS WHEN WORKING FOR EXTRACTED HONEY.

When I sometimes have occasion to make shook-swarms in any of the extracting yards, either full sheets or combs are entirely satisfactory.

GETTING POLLEN IN THE SECTIONS WHEN USING SHALLOW BROOD-NESTS.

Mr. Townsend seems to obtain satisfactory results by hiving in a hive only 5¾ inches deep; or, at least, he says nothing about any difficulty from pollen being stored in the sections; but, in this locality I have had many a nice section (even entire supers of sections) spoiled by pollen when above such shallow brood-nests; and there is no preventive when a single shallow case is used. So, I had made two hundred Heddon cases, one inch deeper, and nine frames wide. With these there is less pollen above, but too much, still. One of my good neighbors, who has had an extensive experience for thirty years, or more, was quite well pleased with a popular, 7½-inch, closed-end frame, 10-frame hive, but at last settled on a hive containing ten shallow Hoffman frames, 7⅞ inches deep, having *more* comb space in the brood-nest, than the standard eight-frame hive; but when I called on him, and found him casing honey, I was surprised at the large number of sections which had to be discarded, owing to one or more cells of pollen. This would indicate that it is the *shallowness* of the hive, rather than the small *size*, which tends to throw pollen into the sections.

FORTELLING SWARMING WITH LOOSE, HANGING FRAMES.

Mr. Townsend dwells upon the ease with which the two sections of the Heddon hive may be pried apart, and queen-cells seen, and, true it is, but the *principle* is not inapplicable to some other hives, as I shall show. Again, in the December, 1904, Review, Mr. Ludington, tells of his closed-end frame hives, with hinged floors, which may be dropped, and queen-cells easily seen. True, but the standard L. hives, with either Hoffman or loose-hanging frames, are also well adapted to this plan of fortelling swarming, as I know from extensive practice. Since 1898, or 1899, where, (I believe) I learned the trick in the apiaries of my friend and early instructor, Mr. Thos. Chantry, then of South Dakota. The plan is as follows: Draw the hive forward about an inch on the bottom board, hold the bottom down with the one foot, then tilt the hive backward until you have a perfect view of the bottoms of the combs. Drive the bees up with a little smoke, and separate the bottoms of the combs rapidly, with the fingers, when you can easily see if there are any queen-cells in the hive, even if they are well-up among the combs. So you see that deep, closed-end frames are a detriment for rapid foretelling of swarming, as they cannot be separated by the fingers to make it easy to see well-up among the combs. So, for our 250 or 300 colonies of increase in our comb honey yards for 1905, we will use the standard, eight-frame hive of L. size. hiving on starters only, and say, with M. A. Gill, and tens of thousands of others, "Blessed be the name of Langstroth."

MERIDIAN, Idaho, Jan. 10, 1905.

The Card System for Keeping Records in the Apiary.

BY ARTHUR C. MILLER.

PROGRESSIVE, modern bee-keeping demands a comprehensive system of records; one that shows the work *to be* done as well as what *has* been done. The ideal system must be elastic and simple, yet rapid in operation.

To reach these ends requires the use of the best mechanical devices, and the elimination of every bit of information not absolutely essential.

The "card system" has, with me, proved to be the best mechanical device, and far superior to any book. It lends itself readily to any and every sort of classification, enables one to dispense with much copying, and is refreshingly mobile. But with this, as with any other system, it is essential that the user has a clear conception of what he wishes to record, and why. Furthermore, the signs or symbols used for such records must be as simple as possible, readily understood and difficult of misinterpretation.

The appliances consist of an assortment of cards and a tray or box for holding them in an upright position. There are three sorts of cards: "Guide cards," having "tabs" or protections in the upper edges, carrying names, letters, or numbers; "Record cards" for the actual records; "Flag cards," so designated because they are used as signals.

REASONS FOR KEEPING RECORDS.

Before describing these cards in detail I must digress a little and refer to a system of classification. The basis for this must be the matter to be re-

corded, and the use to be made of such records. First, I want to know the general condition of each colony as it relates to its ability to produce. Second, I want to know what and when anything is to be done. Third, I want to know, for how much of the results the queen is responsible.

Also, I want to be able to go directly to the colony desired, and, further, if I change queens or colonies about, I want to keep track of it without a lot of copying or confusing change of numbers.

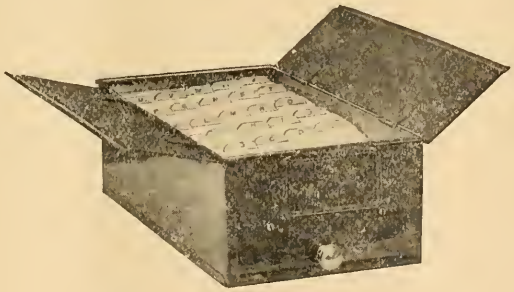
I reach these ends in this manner: The colonies in each apiary are arranged in rows and each *stand* is numbered. The number is permanent and unchanged so long as the yard is used for bees. If one has many colonies in a yard, location of numbers can be made more readily if each row contains a certain number of stands. For example, 1 to 50 in the first row, the second fifty in the second row, and so on. Then if the rows are broken by an extra space after every tenth hive, it is but the matter of an instant to locate any particular stand. So much for the yard part of it.

HOW TO ARRANGE THE CARDS.

The cards to fit this arrangement are fixed as follows: First there is put into the tray a card bearing the name of the apiary. Next there are arranged a series of guides bearing numbers corresponding to the stand numbers. These guides are permanent in their order. Behind these "stand guides" go the records of the queens and colonies on the stands. The record cards are ruled so as to facilitate the recording, and, to still further simplify this work, and at the same time get rid of any confusing symbols, I use a series of numbers to denote conditions.

HOW TO USE THE CARDS.

I mentally group the colonies into three classes, namely, "Good," "Fair," "Poor." To designate these conditions I use the numbers 1, 2 and 3. If a colony is exceptionally good or poor, I use an "X" in connection with the number. That is all that it is necessary to have on a record card to enable one to tell whether or not that colony is to be a honey producer. I care not whether a colony has 8, 9 or 10 frames, or two or three sectional brood chambers, or whether so much brood and so much honey is present, I only want to know the *result* of the combination of these factors. The queens' qualities are classified in the same way.



TRAY FOR HOLDING CARDS.

It will be seen that by this system only three numbers are used to designate a host of conditions, their significance resting on the particular column in which they appear. On the record cards are put only those matters which will be of permanent interest. All transient matters, such as feeding, requeening, forced swarming, uniting, etc., are cared for with the flag-cards.

The "colony record" card is ruled

horizontally the same as ordinary note paper, and then the left half, or a little more than one-half, is ruled vertically, giving seven narrow, upright columns, and one quite wide column at the right. The first column is for the date of inspection; the second is for the "grade" of the colony (i. e its working ability); the third contains the queen's number; the fourth the amount of extracted honey yielded; the fifth the amount of comb honey; the sixth column is for aid *given to* the colony, and the seventh for aid *taken from* it. The balance of the space at the right is for "remarks" of any sort.

The "queen record" cards are blue in color. They bear on the top line, end of the card, occupying a trifle more than half the card. The first column is for fecundity; the second, vigor; (determined by the age of the queen and life-period of her bees, also their wintering qualities); the third is for temper; the fourth for "grade" of work based on quantity of honey her colony produces; the fifth for quality of comb work; the sixth is for the date; and the seventh for the number of the stand she is on.

In keeping track of honey yields, each super, as it is removed, has tucked into it piece of section on which is penciled the stand-number from which the super is taken. In the honey-house these bits of sections receive a memo. of the

Date	G	Q	Ex H	C H	Aid to	Aid F	Remarks
7/1/3	1	36					
9/3/3			30				
4/20/04	X 1						
5/30/04				20			

COLONY RECOD CARD.

at the left end, the queen's origin; next the date she was hatched, and at the right hand end is her number. (She is known by the same number as long as she lives.) On the next line at the left is the record of her mating if known. If the drone parentage is known, his mother's number is put there; if not known, just the letter "P" or "H" indicating a "pure" or "hybrid" mating. Below these two horizontal lines, the card is ruled the same as the "colony record" cards, that is seven narrow, upright columns at the left amount of honey, and are tossed into a box for future use. At leisure these records are transferred to the cards.

The flag cards are narrow strips tall enough to project above the guides and are of various colors, to denote special classes of work. For example, blue flags are used for all matters relating to queens from the egg onward.

Flags for work *to be* done, are placed *behind* the stand "guide" of the colonies to be worked upon, and are placed at the extreme left of the tray. When the work is done, they are slid

over to the right hand side. At night, the flags in this latter position are removed, and if the results of the work they called for demand permanent record, the facts are noted on the record card. Work "in transit," as when a queen cell is given, and we want to keep track of the case, have flag moved only to the *middle*, and there it remains until the matter is properly settled.

Sometimes these flags bear a little penciled memorandum of specific work to be done; or, sometimes, while at work it is expedient to pencil on the flag the result of some operation or memo. for future use, but, as a rule, a pencil is seldom used in the yard; nor

the work progresses. Or a small tray bearing only a duplicate set of numbered guides is used, and the flags put in these before setting out. Cards are held close together to prevent flags from shifting during transportation.

EXPENSE OF AN OUTFIT.

The outfit is not expensive. A neat tray costs only $1.00; the guide-cards cost only 60c a hundred, and the record cards $1.25 a thousand ruled across only. The vertical ruling is printed in at the same time the lettering is printed; or it may be done by hand as I did mine.

If colonies are wintered in a cellar, then it would be necessary to attach a

Prov. 36 June 17/03 No. 42
D 15

F	V	T	W	Date	S
				7/1/3	7
1				8/10/3	
	1	2		5/11/04	
			1 2	7/2/04	

QUEEN RECORD CARD.

are the records handled by sticky fingers. When the flags are soiled they are thrown away.

When a colony is moved to another stand, a flag with the two numbers on it is tucked into the tray, and, later, the record cards are transferred. The same is done when a queen is moved. When a queen is sold, or dies, her her record goes into a "dead" file in its numerical order.

In using the record, the tray is stood in some handy spot and referred to as

duplicate of the stand-number to each one to ensure their return to their proper places.

I got my outfit from the Library Bureau of Boston. It is rather too heavy to go by mail, but, as they have offices in all of the principal cities, it should be possible for anyone to get a similar outfit at slight expense in expressage.

PROVIDENCE, R. I., Oct. 12, 1904.

Some Objections to the Sibbald Plan of Management.

BY L. STACHELHAUSEN.

WITH interest I have read the article of H. G. Sibbald in the March Review, and your foot-note to it.

To prevent swarming in this way is very old, I tried the plan more than 20 years ago; and, in 1889, a little book, written by Geo. Wurz, was published in Germany, in which this plan to prevent swarming is explained *exactly* in the same way; besides some other plans are given.

With me the plan did not work as satisfactorily as the shook-swarm plan. The swarm with this one frame of brood, a few queen-cells, and mostly old bees, is very *dissatisfied*; and the bees, missing the old queen, are hunting for her around the outside. If the parent colony is nearby, they will find it out, and will, in a large degree, enter this hive. The consequence is, that the swarm is a weakling, and in the parent colony the queen-cells are *not* destroyed, because of the return of the bees. To prevent this the parent colony must be removed far from the swarm, or be hidden by cloths or boards. Nevertheless, a part of the old bees will enter other hives; and, with me, the swarm was always too weak to do any super-work. To make the colony work, it was necessary to unite again as soon as possible; that is, as soon as the queen cells were destroyed, in about five or six days, if everything worked all right.

But, after uniting, and with large brood-chambers, as I prefer them, the colony is not in a good condition for storing honey in the sections. For this purpose, the colony should be in the condition of a very strong swarm, and should have no empty cells in the brood-chamber, in which honey can be stored, at least, not till the work in the sections is advanced considerably.

If increase is desired, and the two colonies remain separated, the parent colony can be removed far enough, so that the bees can not find it any more; but, in this case, the swarm with a young queen and mostly old bees is in a very bad condition; and three weeks afterwards will be a very weak nucleus; and nothing else.

If moderate increase is wanted, it is a much better plan to make three out of two, as recommended by Doolittle and others.

The swarm is in a better condition, and the bees are more inclined to stay in the hive, if the old queen is given to the swarm, and at least some young bees. We can do this by hunting up the queen, but with less work by the shook-swarm plan, and this is the reason why I gave up this described plan, and commenced to shake the bees. In this case, too, it is not difficult to unite these two colonies again, *if the manipulation has no other purpose than to prevent swarming when queen-cells are already started.* If we find a colony with queen-cells started, we make a shook-swarm on the old stand. the parent colony with enough bees and the queen cells is set on top of this hive with the flight hole in the opposite direction. When one of the young young queens is out of the cell and has destroyed the other cells in the parent colony we can reunite *by manipulating hives only.* At evening we set the parent colony with the young queen on the place of the swarm, and one hour afterwards every colony is placed again on its old stand. Next morning we will find that the young queen is

killed by the old bees of the swarm, which returning from the field entered the parent colony during that hour, in which it occupied the place of the swarm. Now we set a wire netting on top of the swarm and the parent colony on top of this, which netting can be removed after six hours, and the hive arranged in the way we want it.

You think a colony arranged in this way, or after the Sibbald plan, may not *stay* cured of the swarming fever. I do not know how it is in other localities, but here in Texas a colony will not swarm during the main flow, if it has no queen-cell, when this main flow commences.

Another objection I have is, that it is necessary to examine all colonies several times to see whether they have queen cells or not. I know that several bee-keepers do the same thing, and then use the shook-swarm plan. I do not do such things. Before the main honey-flow, I prevent swarming by using large hives *a la* Dadant; and when the main flow commences I bring every colony, which is to produce comb honey, to the condition of a strong swarm in a contracted brood-chamber, by shaking and brushing, *not* to prevent swarming, but to create the best possible condition for storing honey in the sections, as you explained in your book: "The production of comb-honey," about 18 years ago.

CONVERSE, Texas, March 26, 1905

Farmers can Keep Bees with the Help of Their Children.

BY MRS. GEO. JACKSON.

EDITOR REVIEW, I have just finished reading "Some Difficulties That Beset the Farmer-Bee-Keeper," by Mr. Fred. A. Krause. With his experience, probably his article is all right, but, to us, it seems a little overdrawn. There are a number of farmer-bee-keepers near here, but we have never seen where the bees had to be neglected to the extent that Mr. Krause neglected his; and there are many things to be said in favor of farm-bee-keeping.

First and foremost among them is, that it is one of the greatest of helps in keeping our girls and boys contented and happy on the farm. It gives them profitable and pleasant employment. If they are taught while young to like, and be interested in, bees, taken into partnership and given a share of the profits when older, there will be no lack of help in caring for bees. At least, that has been our experience.

While the average farmer is doing well on his farm, making a living, and perhaps a little more, our growing youths' wants are many, often more than father's pocket book can easily supply, and yet, we must do for the children while we have them to do for. Childhood's years slip away too fast for father and mother; and our little ones, all too soon, want to try their wings and flit from the home-nest. A good farm-apiary will help wonderfully in keeping the pocketbook filled. The honey money has brought into our home-life a fine library of good books, a piano, an extra horse and carriage, bicycles, and many, many other pleasures that have helped to make farm-

life beautiful; and I would say to any farmer, or farmer's wife, "Don't let the specialist idea discourage you. If you haven't bees, get some; and keep them as long as you have a child at home. And, after the children are gone, don't part with the bees. Perhaps one of the little grandchildren may live with you.

SUMMIT CITY, Mich., Mar. 22, 1905.

[I believe Mr. Krause said it was all right for farmers to keep bees if there were some member of the family who could do the work—some member who could not do farm work, or did not care to do it. I agree with Mrs. Jackson that where children can be encouraged to take an interest in bees and care for them, it is all right; but I don't see as it would be any better than to encourage them and give them a share in some of the regular farm-work, providing, of course, it is such as interests them, and that they can take a part in it. If it isn't, then bee-keeping is all right, and I see no objection to it in the light in which Mrs. Jackson puts it.—ED. REVIEW.]

Editorial

Protection for bees after they are taken from the cellar is something that needs serious consideration. I know of some bee-keepers who are this year using building paper for this purpose, and when the season is over I wish they would let us know the results.

The Next National Convention to be at San Antonio, Texas.

For years, Texas has been asking that the National Bee-Keepers' Association hold its convention within her borders, but there has always seemed to be some reason why the meeting should be elsewhere. There is now no reason why it should not be held in Texas this year, if it is ever to be held there. Texas is the largest State in the Union, and stands at least second, if not first, in honey production, while she has a good list of members in the National Association. Considering all of these facts, the Executive Committee has decided upon San Antonio as the place for holding the next convention. The exact date has not yet been decided upon, but it will probably be the latter part of October, after the busy season is over with the bees, when the weather is comfortable, even in the South, and when cheap excursion rates can be secured.

Why the Change in Cover.

Two or three years ago, for the period of about a year, I used on the Review, a cover similar to the one on this issue. I liked the cover, but I could get the paper only by having it made to order; and then I had to buy enough at one time to last me a year. This tied up quite a lot of money (for me), besides, just at that time, I had bought a new job press and was greatly interested in color-printing, doing work in two or more colors, and the result was the cover that has since graced the Review. In the last two years the Review has greatly increased its subscription list, while the printing office has been moved down town, where the demands upon the job press are very urgent, making it difficult at times to run off the cover, which, as it is now printed, requires four "runs" to print it. By printing it in black upon the large press the work can be

done with one "run;" besides, the large press enjoys more leisure than the small one. The last straw that decided me to make the change was finding where this beautiful, enameled, golden rod paper was kept in stock, and could be bought in any quantities at any time. As business increases, I find there are many things that can be done with a small business that are not practical with a large business— all "fussy" operations must be eliminated.

Raspberry Honey is White Honey.

In my article about Northern Michigan, published in the Review for December, 1903, I said that the honey from the wild, red raspberry could not be classed as a strictly white honey. Since then, several have written and protested against my saying that it was not white. Two samples have been sent me. One is from Mr. E. D. Townsend, who has his apiary in a raspberry district, where the entire surplus was from this source. The sample is strictly water white. Mr. Townsend suggests that what makes some samples slightly colored is probably because brood has been raised up into the upper story, and honey extracted from combs that have contained brood. The sample that I saw that caused me to say that raspberry honey was not strictly white, was produced under exactly those conditions. I certainly have no desire to do any honey an injustice, and I make room with pleasure for this explanation.

Who Invented the Wax Press?

Perhaps it would have been better, in publishing Mr. Townsend's article, describing his wax-press, to have said that others had made and described similar presses some years ago; notably Mr. F. A. Gemmill, of Canada, and Mr. C. A. Hatch, of Wisconsin. Long ago the Review published an illustration and description of a press similar to the one described by Mr. Townsend, and called it the Hatch-Gemmill press, as these two men seem to be the inventors. Perhaps Mr. Townsend did not know of this. Knowing Mr. Townsend as I do, I know he would not knowingly rob any man off a just due. The press as Mr. Townsend has made it, varies in detail from the Hatch-Gemmill press, as shown in the Review, but the principle must be the same in all such presses. Some of the details in the construction of the press, and its management in rendering wax, are quite important, and several have written, since reading the Townsend article, and expressed their thanks for the benefits that have come to them from its perusal. Mr. Hatch writes that a square dipper is much better than a round one to dip the wax off the top. He also says that he would run most of the wax directly into the forms for the cakes, that is, not re-melt it, as wax is not improved by being melted.

Missouri Foul Brood Bill has been Vetoed.

Missouri bee-keepers have learned a sad lesson, in that securing legislation is much like going to war—no point can be left uncovered or unconsidered. As a rule, when a bill has passed both houses of the legislature it is looked upon as almost a law—that the Governor will surely sign it. But the Governor didn't. And he shows by his veto that he wholly misunderstood the true meaning and necessity of the proposed law. Here are three paragraphs clipped from his veto. I give them to show how little the Governor comprehends the real situation.

The measure illustrates the fallacious idea that the Government can do more for the individual than the individual can do for himself. Anyone intelligent enough to conduct a bee industry is certainly better qualified to

attend to them and manage his own business than any State Inspector could possibly be.

The is no magic in a State inspectorship of bees, or anything else to cure the ills that may exist. It is said this measure is asked for by the honey raisers to suppress contagious diseases among bees. But they can by meeting together and exchanging ideas, do for themselves what the State cannot do through this bill. If all together they are unable to cope with the situation, how can one of them named as Inspector, do better ?

The principle of the measure is paternalistic and not in accord with the democratic theory of government. The Inpsector is authorized to go into anyone's home, and if he should not like the way the bee-hives are conducted he could for some real or imaginary disease annihilate the whole brood, leaving the owner without remedy, but for all of which the Inspector would receive $4 a day.

The point that some men are ignorant regarding foul brood, not only ignorant, but, perhaps prejudiced, and will refuse to listen to instructions from those who know, and continue to keep diseased colonies until they perish, and the neighboring bees carry home the honey and the seeds of the disease, that all this can happen yet there is no law to compel them to get rid of the disease, this point, the pivotal point of the whole matter, seems to have escaped the Governor's notice. Had the bee-keepers seen to it that some one in whom the Governor had confidence had gone to him and explained this matter, the termination would probably have been different. I have written the Governor a letter. It will probably do no good, but it certainly can do no harm. Bee-keepers of Missouri will have their work all to do over again in two years, and I feel sure that this point will not be neglected next time.

A New Organization.

In this issue of the Review will be found the Prospectus and Constitution of a new organization—the Honey Producers' League. A reading of the Prospectus and Constitution will leave little more to tell. I have been sending out copies of this, and urging manufacturers, dealers and bee-keepers to help in this work. By reading between the lines of some of the letters that come to me, I can see that the first obstacle is going to be a belief that this organization is going to be a competitor, or antagonistic, to the old National—that it is designed to supplant the older association. Nothing could have been further from the minds of the promoters of the League. The desire is to work in the utmost harmony with the National—to be auxiliary to that, so to speak—to take up a special line of work, that of advertising and popularizing honey. As to whether the new organization will become a permanent institution remains to be seen. It has a lot of big work to do right *now*, and, if it does no more than to kill the Wiley lie during the next year, it will not have labored in vain. No, friends, the National will go on year after year, if rightly managed, while circumstances alone will determine whether the League shall exist beyond its first year. If you have any desire whatever to help improve the honey markets, *right now* is when you can do it, and never think for a moment that you are thereby putting down the grand old National.

Here is a list of those who have, thus far, joined the League: Dr. C. C. Miller, $10; Geo. W. York, $25; Geo. C. Lewis (for G. B. Lewis Co.,) $210; H. M. Arnd (for York Honey and Bee Supply Co.), $15; E. Whitcomb, $1; Arthur L. Boyden (for the A. I. Root Co.), $610; E. Kretchmer (for Kretchmer Mfg. Co.), $50; W. Z. Hutchinson, $13; C. P. Dadant (for Dadant & Sons), $70; Griggs Bros., $11; F. A. Salisbury, $30; Gus Dittmer, $22; J. A. Green, $10; C. A. Hatch, $10; Robt. A. Holekamp, $6; J. C. Davis, $5; John

Nebel & Son Supply Co., $18; Walter Pouder, $24; J. B. Mason, $12.

Of course, it must be understood that the matter has only now been given to the public, and those who have joined have done so through private correspondence.

Some Criticisms on the Sibbald Article.

In the correspondence department will be found an article from Mr. Hr. Stachelhausen, in which he shows the short comings (as they appear to him) of the Sibbald system of preventing swarming. In addition I clip from private letters the following:

Mr. Thorne, Ottawa, Canada, fears that the bees will swarm from the hive on the old stand, when the first young queen hatches. Mr. Sibbald says not, and I should not expect it, as they have lost most of their brood, and recovered from the swarming-fever.

Mr. J. A. Green, of Colorado, says: The only flaw that I can see in the Sibbald plan is that unless the queen cell given the colony on the old stand is already sealed, a poor queen is likely to be the result, unless a greater number of young bees is given than will be found on one comb. Whether the bees will work as well in the supers as under the ordinary plan is a little doubtful; that is something that must be learned by experiment.

Morley Pettit, of Canada, says: Sibbald's idea is a good one, but I prefer to manipulate the brood chamber so as to avoid dividing the force at all, and, in working for extracted honey, I can do this to a large extent.

Another countryman of Mr. Sibbald writes mequite a long letter on the subject. I am not sure that he cares to have his name appear, so I will withhold it. Here are some of the things he wrote:—

With yourself, I am inclined to doubt whether the re-united colony will *stay cured* of the swarming fever. With a young queen at the head of the united colony, I should expect no more swarming, but, if the "old lady" were left with a brood nest somewhat crowded, I should be "suspicious." Digressing a little, I would say that in the production of extracted honey, a similar plan works well when shook-swarming is practiced. Five or six days after shaking, destroy all queen cells on the brood combs, and place them as an extra super over the colony on the old stand. All the force is thus united, and there will be no more swarming. The brood combs, when filled with honey, are excellent for winter-stores where one does not wish to extract the honey on account of some of it being dark. For two or three years I treated some colonies in exactly the same manner as Mr. Sibbald treated his, but I hadn't brains enough to see its possibilities. However, I found one very serious objection to it, and that is, that, in some cases, the old bees would find and join the old colony; and, even when the working force *did* stay at the old stand, the strength of the colony was not nearly so great as by the shaking process.

"Swarthmore," of Pennsylvania, says he has practiced the Sibbald method for several seasons, and found it O. K. The bees not only tear down the queen cells, but they also dig out every bit of drone brood and dispose of every live drone.

W. E. Flower, of Pennsylvania, wishes to know if Mr. Sibbald contracts the brood nest in the new hive on the old stand. I think not. If I am not correct, Mr. Sibbald can correct me.—ED. REVIEW.

I am very glad of all this criticism. If the system is not practicable, if it has more disadvantages than advantages, the sooner we know it the better; and that is exactly the reason why I urged Mr. Sibbald so hard to allow me to publish it, that it might the sooner be tested and tried. My advice to all is to try it on a moderate scale and see how it works.

Helping Weak Swarms in the Spring.

Last April the Review published an article by Mr. E. W. Alexander, of New York, in which he explained how he saved weak colonies by setting them over strong ones. I will quote from his article the description of how the work was done. It is as follows:—

After the bees have been taken from the cellar, and had a good flight, we commence at one side of the yard and examine every colony carefully. Those that are weak in bees, yet have a good queen, we mark; and, as soon as they have some larvae in their combs, which is usually in about five days after setting out, each is taken to a good, strong colony, and set on top, with a queen excluding honey board between. If there is no larvae at this time in the weak colomy, I give it a frame from the strong colony, so as to keep the bees from leaving their queen, and all going below. I close up all entrances except that of the strong colony. The bees will divide themselves about equally between the two queens; and in about four or five weeks I can separate them, and, in nine times out of ten, I have two, good strong colonies. For 20 years I have treated all of my weak colonies in this way in early spring. Sometimes I have had 100 weak colonies on top of strong colonies, and I don't lose five per cent. I think it a much better way than to try to build them up alone; as there is no trouble from robbers, and no attention is required until it is time to separate them. Don't keep them together too long, as the young bees, when over two weeks old, are liable to sting one of the queens.

When I published the foregoing there was no doubt in my mind that it would work out as Mr. Alexander said it would, that the weak colonies would be saved and build up, but I had a lingering suspicion that the strong colonies might lose as much as the weak ones gained—that it was robbing Peter to pay Paul—and I don't feel sure yet that there is anything gained except saving the queens of the weak colonies; however, I am more than willing to be convinced to the contrary, and here is some more experience that is certainly worth considering. I clip it from a private letter written me by Mr. J. A. Pearce, of Grand Rapids, Mich. Mr. Pearce says:—

In regard to putting light swarms on top of heavy ones, in the spring, I believe it is a great thing. In fact, I look upon it as one of the best things brought to light in modern bee-keeping. Last spring I had 16 swarms marked heavy, and just 16 marked light; in fact, so light that I almost despaired of getting them up to the honey harvest by any process; but when that article by Mr. Alexander came out in the April Review, telling us how to save weak colonies by setting them on top of strong ones, I concluded it would work; so I placed the whole 16 weak swarms on top of the 16 strong ones. I examined them some three weeks afterwards, and such a change I never saw! Those weak swarms had built up so they were as strong, if not stronger, than the ones below; and had more honey, because of the tendency to store above. I could scarcely believe that such results were possible. Then, again, instead of detracting in any way from the strong swarms below, it really seemed to be the reverse—as though they had been stimulated by it to greater activity. Having the two queens depositing eggs, instead of only one, the bees went out with a rush on all occasions when they could get out. It also proved another thing, which is, that the upper queen is all right only she was handicapped for want of bees and warmth; and, as soon as these conditions were supplied, she proved herself to be as prolific as her sister below, instead of being the worthless thing that she had been supposed to be.

I might add that that there were two or three at the recent Grand Rapids meeting of Michigan bee-keepers who reported experiences similar to those of Mr. Alexander and Mr. Pearce.

If a colony is very populous, so much so that it could care for more eggs than one queen could lay, I should feel that the operation might be a profitable one; and I admit now that it is profitable in so far as it saves the queen of the weak colony, but it is really, in one sense, a division of the strong colony, a drawing off of bees and heat for the building up of another colony that would likely have been of little value without this assistance—certainly not of much value until late in the season. Now, don't get the idea that I am condemning the practice, as it *does* save the queens; and the time soon comes, when bees are increasing rapidly, when these queens

can be used to advantage, and in exactly this way may be the best way to use them.

The point that I wish to make clear is, that there is no magic, no mystery, in having a weak colony build up simply by setting it over a strong one; the help comes from the strong one. Notwithstanding this, I am inclined to think that it may be a good thing to do. What is needed is some really careful experimenting. Divide the apiary. Put the weak colonies on top the strong ones in one half. In the other half let the weak ones and strong ones play it out all alone; and then see which half comes out ahead.

Then, again, there are other factors. Does your harvest come early, and every possible means must be employed to secure populous colonies very early? Or does it come in August, or later, and there is abundant time for colonies to build up?

Truly, apiculture is a many sided structure, and wise is the man who knows every angle.

The Honey Producers' League—Prospectus and Constitution.

A crisis has been reached in bee-keeping. The time is now here when bee-keepers must band together, as never before, fight an insidious foe, and cope with the conditions of modern times. In short, the wide-spread ignorance regarding the value of honey as a food (its deliciousness, cheapness and digestibility), coupled with an almost universal belief in its adulteration, which belief is fostered by the continued publication of untruthful stories concerning so-called manufactured comb honey, to which may be added the fact that cheap syrups are being pushed upon the market with great vigor—all these combined are depressing the honey market beyond all precedent; and, unless something is done to counteract these influences, our occupation, or, at least, a good share of its profitableness, will soon be gone.

A large share of last year's honey crop is still unsold, while the market is practically *dead*, as is easily shown by reference to the market reports. The crop of the coming season will soon be here, and, should it prove a bountiful one, with last year's crop still unsold, where will prices go then? We may as well face the situation squarely. Then comes the all-important question: What shall we do about it?

Three or four of us began recently to discuss this question, privately, by mail, and we decided to act *promptly*, to the extent of summoning (some by telephone and telegraph) to a conference in Chicago, some eight or ten representative manufacturers, dealers, publishers and honey-producers. As a result, such a meeting was held March 14th and 15th, the whole two days being occupied in forming an organization, and in discussing ways and means whereby said organization can increase the demand for honey.

The first step was the drafting of a constitution which reads as follows:

CONSTITUTION.

ART. I—NAME AND HEADQUARTERS.

Sec. 1—The name of this organization shall be "The Honey Producers' League."

Sec. 2—Its headquarters shall be Chicago, Ill.

ART. II—OBJECTS.

Its objects shall be to create a larger demand for honey by popularizing its use among the consuming public through advertising in newspapers and magazines its great value as a food, and by such other methods as may be considered advisable by the Executive Board. Also by publication of facts concerning the production of honey to counteract any misrepresentation of the same.

ART. III—MEMBERSHIP AND DUES.

Sec. 1—Any bee-keeper may become a member by paying to the Manager

an annual fee of $1.00 for each 20 (or fraction of 20) colonies of bees (spring count) he owns or operates.

Sec. 2—Any honey dealer, bee-supply dealer, bee-supply manufacturer, bee-paper publisher, or any other firm or individual, may become a member on the annual payment of a fee of $10.00, increased by one-fifth of one (1) per cent. of his or its capital used in the allied interests of bee-keeping.

Sec. 3—The annual dues shall be payable in advance, on or before May 1 of each year.

Sec. 4—Membership shall cease when dues are in arrears three months.

ART. IV—EXECUTIVE BOARD.

Sec. 1—An Executive Board consisting of seven members shall be elected by mail ballot annually in the month of March (after the first election), the ballots to be sent to the membership between March 1 and 5, the polls to be closed at noon April 1. They shall be the seven members receiving the highest number of votes cast. In case of a tie-vote, the other members of the Board shall decide it.

Sec. 2—The votes shall be mailed to the Secretary, who, with another member to be selected by the balance of the Executive Board, shall together count the votes and certify the result to the Manager, who shall then forward copies of the same to the United States bee-papers for publication, and also give same in his annual report.

Sec. 3—The Executive Board shall have the general management of the League, and shall elect from their number the officers named in ARTICLE V, Sec. 1, who shall execute the orders of the Board, and hold their several offices until their successors are elected and qualified.

Sec. 4—The Executive Board shall meet annually, on the third Wednesday in April, in Chicago, for the election of officers, and for the transaction of such other business as may regularly come before it.

Sec. 5—Special meetings of the Executive Board shall be held when called by the President, upon request of three or more members of the Board.

ART. V—OFFICERS.

Sec. 1—The officers shall be a President, Vice-President, Secretary, Treasurer and Manager.

Sec. 2—The duties of the President and Vice-President shall be such as usually devolve upon these officers.

Sec. 3—The duties of the Secretary shall be to keep a record of the meetings of the Executive Board, and to count the ballots of all votes of the membership, as provided by ART. IV, Sec. 2, the result of which he is to forward at once to the Manager.

Sec. 4—The Treasurer shall keep a record of all moneys received from the Manager, giving his receipt therefor; and he shall pay out funds only on bills approved as per Sec. 5 of this article.

Sec. 5—The duties of the Manager shall be to conduct the actual business of the League as directed by the Executive Board; to keep a list of the membership; to account for all moneys received, and turn same over to the Treasurer, taking his receipt therefor; to prepare and mail in March of each year, to the membership, an annual report containing a financial statement, and such other matters as would be of interest to all concerned, including all ballots and amendments; and to issue orders on the Treasurer for payment of all bills, when countersigned by the President.

Sec. 6—The Treasurer and Manager shall each furnish such bond as shall be satisfactory to the Executive Board.

ART. VI—SALARIES AND EXPENSES.

Sec. 1—No salary shall be paid any officer of this League, but the actual expense of holding meetings of the Executive Board (when they deem such necessary) shall be paid from the general expense-fund.

Sec. 2—There shall be an allowance of five (5) per cent. of the cash receipts to cover all general expenses, such as printing, meetings of the Executive Board, etc., the remaining ninety-five (95) per cent. to be applied on the advertising proper.

ART. VII—AMENDMENTS.

This Constitution may be amended by a two-thirds vote of the membership at any regular election, provided such proposed amendment be first submitted to the Executive Board and approved by it.

MINUTES OF FIRST MEETING.

A temporary organization was effected and the foregoing Constitution adopted, when, upon motion of Ralph W. Boyden, the following members were elected as an Executive Board: Dr. C. C. Miller, W. Z. Hutchinson, Arthur L.

Boyden, George W. York, C. P. Dadant, N. E. France and George C. Lewis.

A permanent organization was then formed, and the following officers elected: President, Dr. C. C. Miller; Vice-President, George C. Lewis; Secretary, W. Z. Hutchinson; Treasurer, Arthur L. Boyden; Manager, George W. York.

Before adjourning it was resolved to do no general advertising until there is at least $5,000 in the hands of the Treasurer; the Manager was instructed to take the necessary steps for securing the incorporation of the League; and the Secretary and Manager were appointed a committee to prepare the necessary literature for use in soliciting membership.

SOME QUESTIONS ANSWERED.

While the Constitution quite clearly outlines the aims and objects of the League, a few questions will naturally spring to the lips of one who contemplates joining its ranks, hence it may be well to answer in advance as many as possible of them.

Naturally, the first question asked will be: "Why form a new organization, when the constitution of the National allows the use of its funds for such work?" Principally, because the National has not enough money at its command to do the work effectively, and it could not raise enough without a change in its Constitution, as, at present, only one extra assessment of $1.00 per member can be made each year, while the work of advertising, to be effective, requires *thousands of dollars* AT ONCE.

Perhaps some will ask why the matter was not discussed in advance in the bee-papers, and a public meeting called? Why was the matter kept quiet, and the work done with apparent secrecy? It was done so quickly, simply to save time. When the true situation had fairly dawned upon the three or four who were first discussing the matter, it became equally apparent that only by the most prompt and active work could anything be done that would help the sale of the last year's honey crop before the coming of this year's crop.

Some may wonder why the members of the Executive Board were all chosen so near Chicago. They were thus chosen that they might quickly and cheaply attend Board-meetings. Should an important question requiring immediate action come up, telegrams sent every member in the afternoon would enable them to be in Chicago the next morning. If any mistake has been made in the choice of officers, it can be corrected at the next election. As it is, however, it is doubtful if a set of officers can be chosen who would have more completely at heart the success of the undertaking. Besides this, they are all friendly to one another, and will work harmoniously as a unit.

It may be asked why no salaries are paid the officers. If these men are willing to give so freely of their money, they should be equally willing to give their time; besides, if they were paid salaries, many might be inclined to look upon the whole thing as a scheme on the part of the officers to put money into their own pockets. As it is, these men are really putting in their time, money, and energies, expecting no reward except such as will come to them from the improved conditions of bee culture. Only as honey-producers are benefited, will any benefit come to manufacturers, dealers and publishers, yet a heavier burden is placed upon them than upon the actual honey-producer. The contributions of the Board-members alone will reach nearly $1,000.

Every one, will, of course, be interested in knowing what forms of advertising will be adopted. Mainly that of advertising in the daily papers and

magazines. (No advertising will be done in the bee journals, as that would be simply a waste of money). Probably the first feature will be that of killing, or removing, the false beliefs regarding the manufacture of artificial comb honey. Large space, perhaps one-fourth, or one-eighth-page, will be used in leading dailies, a large heading reading something as follows:

$10,000 FORFEITED!

Then will follow an explanation and refutation of the matter, and the offer of $10,000 as a forfeit to any one who can show a sample of comb honey that has been produced artificially. Of course, care will be taken to word the offer properly, so that no technical advantage may be taken. The best talent of the country will be employed in preparing and placing the advertising. Many papers that publish these advertisements will probably be willing also to publish articles on bee-keeping written with a view to increasing the demand for honey. Possibly firms that print "patent insides" for other newspapers may be induced to use such articles.

At fairs and exhibitions, it may be advisable to have educational honey exhibits, together with the distribution of suitable literature. Possibly it may be well to put stereopticon lecturers in the field; but, as has already been stated, newspaper advertising will be the main feature.

Let me tell just one little incident: On the train while going home from the meeting, I fell to talking with a young man who occupied the seat with me. As we became somewhat acquainted, I told him of the object of my trip to Chicago, going somewhat into detail. In reply, he said, in substance:

"At our home we are fond of biscuit and pancakes, with honey or maple syrup. We send down to Vermont, to an acquaintance, to get the maple syrup, as that is the only way we can feel certain we are getting the pure article. We don't buy honey very often, because, while I had never heard how the story started, as you explain it, I had been lead to believe that a good share, even of comb honey, was manufactured stuff (mostly paraffine and glucose) and I didn't care to eat it. I am very glad to have met you and to have it proved to me so conclusively that I can eat comb honey, and feel that it is the genuine article."

Friends, there are millions of men and women just exactly like my chance acquaintance, and, in the language of the street, it is "up to us" to convince them of the error of their belief. If we could induce one million of them to step into the groceries tomorrow and each buy a pound of honey, what do you suppose would happen?

This is the work for us to do, and it is the most important work that has been taken up in our line in many a long year. Every other industry is *pushing* its products upon the markets by every means imaginable; are we to sit supinely down and let ignorance, misrepresentation, and business-enterprise, push our product off the earth? See how new and unknown things are pushed to the front by the force of advertising; let us not lag behind, but use this new force in modern business—*advertising*—to push our delicious product into the position it so richly deserves.

Just a parting word: Don't wait to "see how it is going to turn out." If others are putting in their time and money for the good of the cause—to accomplish something that will help you—meet them half way, join hands with them, do it promptly, and success is assured.

W. Z. HUTCHINSON,
Flint, Mich. Secretary.

☞Address all business correspondence, membership dues, etc., to the Manager, George W. York, 334 Dearborn St., Chicago, Ill.

EXTRACTED DEPARTMENT.

QUEEN - EXCLUDING HONEY - BOARDS.

Some of their Advantages.

In the production of comb honey it is often possible to dispense with the use of queen-excluders, but there are certainly advantages in their use in the production of extracted honey, and I have never seen those advantages more clearly set forth than they are given by C. Davenport in the American Bee Journal. He says:—

Let us take a strong, or medium strong, colony early in the spring, that is, to run for extracted honey. We will say that it is in either an 8 or 10 frame-hive, for there is not much difference in results here between the two sizes in running for extracted honey. On the first colony we will not use an excluder. If it is a strong colony it will, during fruit bloom, need an upper story; and in a short time the queen will invariably work up into this story, and more or less of these combs will be filled with brood. But now note this: It is very seldom that there is more brood in both of these stories before the main flow commences than the lower one would hold, especially if we are using 10-frame hives. We now have the frames in these two stories more or less filled wtth honey, and brood. The main flow is on, and soon more room is needed. There is nothing in either story fit to extract, so another story is added, and the queen will, nine times out of ten, lay more or less in this third story, but she will seldom go down to the lower story, of her own accord, again that season, unless the colony swarms and she does so in order to get out of the hive. It is now three stories high, which is about as high as it is safe for us to go here without danger of the whole thing being blown over during some of the sudden storms with high winds which we are subject to in the summer.

But if the flow continues good, more room is soon needed, and this whole outfit, boiling over with bees, old bees, young bees, drones, queen—*somewhere* in the two upper stores—brood in all stages, pollen and honey—is all mixed up. We take what honey we can get; this may be considerable, but it is never first-class honey that we get from such an outfit. It is tainted more or less with pollen, the excrement from young, just-hatching bees, larvae and larval food. If we don't extract from frames containing brood we will get very little honey, for there is a *little* brood in a large part of them. A good many who would have to handle 100 colonies in this way would wish the flow to be short, so that there would be only one extracting. We will suppose this to be the case. The whole thing has to be handled frame by frame once more in the fall any way in order to get the colony in size, shape and condition to be wintered.

Now let us take a colony and use an excluder. Where more room is needed we place on the excluder and upper story, and know that the queen is, and will stay, where she belongs—in the brood nest. The bees at once commence to store honey in this upper story, if they lack either storage or brood room below; usually by this time not much more pollen is being gathered than is in demand for brood-rearing, and this is stored below, near the brood. As the flow continues we place another empty story under the first one. By the time more room is needed, the combs in the upper story will be filled and sealed nearly solid with beautiful snow white honey. In order to clear this of bees, all that is necessary in the evening is to raise up one end and slip under an escape-board; by morning the bees will have gone below, and we have the combs clear of bees, and ready to extract. And, my friends, this is *honey*—pure, unmixed, first-class honey, gathered by bees from flowers. After extracting, this set of now empty combs is placed next, and the other set on top of it, and so on as long as the flow continues, and we don't care how many times we have to extract, for it is a pleasure to produce extracted honey by this plan. We experience and feel a good many of those things we would not sell for money if we could.

In the fall—well, there are different plans that can be practiced to get this

latter colony in shape for winter, for they will probably be very short of stores, if they are black or German bees. But, again, note this: We know where the queen is. She is where she belongs—in the brood-nest—and whatever plan we employ to insure the colony winter stores, it is much less work because she is there.

I have not run a colony for extracted honey without an excluder for two years, and have no idea that I will ever do so again. Three years ago I had only about fifty excluders; that season I ran about 150 colonies for extracted honey, and I firmly believe that I secured nearly as much, of a much better grade, from the 50 on which I used excluders, as I did from the 100 colonies without. The next winter I ordered, I think it was 100 or 120, and there is no question but what with me they have paid their cost many times in both seasons since, and they are, of course, barring accidents, good for a life-time. I use, and greatly prefer, the all-zinc for two reasons; First, the all-zinc is much less hindrance to the bees; in fact, an all-zinc is practically no hindrance to a colony in storing in an upper story. If the bees try to carry heavy loads of pollen up through, some of it will get scraped off, which is a good thing. The other reason is, they are much stronger and more durable. The former may split and check off, but new frames can be made, and the zinc itself is everlasting.

QUEEN REARING.

A Novel Method of Securing the Building of Queen Cells with the Queen Still in the Hive

I occasionally publish in the Review things in which I have no faith. I do this because my judgment is not infallible. Things at which I have sneered, when first brought to my notice, have turned out to be of great value. Again, I have published things about which I have been just a trifle skeptical—thought that it was possible that they *might* be what they seemed, but I felt that more experience was necessary before a final decision could be rendered. Still further, I have published things in which I had great faith, only to be disappointed in the final results. All this shows that at least one editor is very much human.

The foregoing thoughts came to me as I read over an article written by Thos. Broderick of New York, and published last August in the American Bee Journal. The gist of the whole article is that, by maiming a queen, cutting off about half of one of her long legs, the bees will become so dissatisfied with her, think she is failing, or seriously injured, that they at once attempt to replace her, by beginning the construction of queen cells.

It would seem that there ought to be the same dissatisfaction over a clipped *wing*. Right here it might not be out of place to admit that the idea has been advanced that a clipped queen is sooner superseded than is one that has not been clipped, but then, bees certainly do not *at once* begin to take steps for supersedure. Once more, I have several times had queens that were cripples. The handling of the cell while the queen was immature, or something, had so injured the queen that one leg would be shriveled and useless. Such queens have done good service in the hive for a whole season with no attempts at supersedure. All these things make me wonder how universally this plan would prove a success. On the other hand, I have known Mr. Broderick many years, and have every confidence in him. The suggestions that he makes in regard to queen rearing are certainly most excellent, and, if this peculiar feature that he describes should prove to be effectual under various conditions, and in other hands, it would work a change in queen rearing. It certainly is worthy of trial, and, with this cautionary prelude, I copy the article, which reads as follows:

Mr. Harry Greeves, on page 350, expresses the wish that some one would start up the queen rearing discussion again. For the benefit of Mr. Greeves and others who are interested

in this all-important subject, I will briefly describe my method of rearing queens, which I feel certain will greatly simplify their rearing, inasmuch as it enables the bee-keeper to do away with all fussing with queen-excluding metal, the uncertainty of the swarming fever, or waiting for queens to get old and be superseded naturally; and best of all, reduces the cost.

I have thoroughly tested all of the methods given through the bee-papers, and know all of the merits and demerits of queens reared by each and all of them. For a long time I reared my queens by the Alley and Doolittle methods, as I considered them the simplest and best, but I became dissatisfied at times with the Doolittle method, especially when queens were reared above or behind queen-excluding metal.

The Alley method will produce a good queen every time when conditions are right, but it is too costly to suit me. The making of a colony queenless, and keeping it so for a week or ten days, means dollars and cents, and if late in the season it may mean death to the colony the following winter. However, we must have some good queens regardless of cost, and I would rear them by the Alley method, too, if I had not worked out the following:

When settled warm weather has arrived, and colonies have become strong, i. e., one hive body well-filled with bees, with brood in all combs excepting the two outside ones, and large numbers of young nurse-bees on hand; then, and not until then, should any one attempt to rear queens. When bees are in this condition, with plenty of honey and pollen coming in from the fields, I am then ready to begin queen rearing operations, provided queens are needed thus early.

I go over the apiary and select a good, strong colony, preferably hybrids, one which has a good, prolific queen not more than two years old—still better if not more than one year old. I hunt out this queen, catch her, and with a sharp pair of scissors clip about ¼ of an inch off one of the large legs and liberate her among the bees again, and close the hive. In about four or five days you will find eggs in queen-cells.

Now prepare a bunch of queen-cups, *a la* Doolittle, minus royal jelly, and take them along with you to the colony, destroy the cells the bees have started, hunt out a comb containing small larvae, and with a goose-quill tooth-pick, that has been previously polished on a stone to take off sharp edges, lift out larvae that are about two days old, as near as you can judge, and place one in each cell-cup without royal jelly—just the dry cup. Now place the comb with cell-cups in the center of the brood-nest and leave it for a day or two, when you will find that just as many, or more, cells have been accepted as if you had put royal jelly in them.

Now these cells have been shaped up by the bees to suit their liking, and there is considerable royal jelly in them, lift out those old larvae that you first put in, and replace them with the smallest larvae you can find from your best breeding queen, and place the comb back in the hive where you took it from. Those cells will be cared for and fed from the very moment you place them back in the hive. This I consider very important, and must take place if we are to have good queens every time. And this leads me to say, that with any method when artificial cell-cups are used, unless given to bees that are hopelessly queenless, they must be grafted a second time if you want good results. The reason is plain to be seen—the cells are unnatural in every respect, and in the majority of cases remain unnoticed for several hours, and the nature of them is only discovered as some bee out of curiosity pokes her head into one of them, when she at once spreads the news. But, alas, it is too late, they have received a setback from which they will never recover, and the omission of this very thing is, I believe, the principal reason why so many bee-keepers received or reared queens that were not satisfactory, thereby causing the queen-breeder and cell-cup methods to be condemned. I am firmly convinced that the grafting of cells a second time has paid me enormously—yes, better than any other work I ever did in the apiary.

Now lest some think that a queen treated as I have described will be of little good from the standpoint of egg-laying, and consequently a run-down colony, to such I want to say that a queen treated in this way will, with the exception of a few hours when first clipped, lay just as well as ever. That has been my experience for the past four years; and, further, the colony will produce just as good results in either comb or extracted honey as if you never touched the queen. And this

colony can be kept building cells during the whole season, as I have done repeatedly. In such a case you must examine every comb in the hive once in every twelve days or two weeks, and cut out any cells that may be started on them.

When rearing queens in this way it is just as necessary to feed the colony in times of scarcity as it is with any method. Of course, the bees are trying to supersede their queen, and will carry on the work of cell-building just as long as there is anything in the hive for them to live on, but if there is no honey in the fields, feed by all means; also feed the colony containing your breeding queen, so that any larvae taken from it will not have received a setback from being fed sparingly. As in times of great scarcity bees feed larvae just as little as possible and have them live, it seems almost unnecessary for me to say that larvae taken from a colony in this condition are entirely unfit for queen-rearing purposes.

Before closing I want to add a few don'ts: Don't try to rush matters by attempting to rear queens before your colonies get strong. Don't wait until the season is nearly over, and drones nearly all killed off; the bees know when the drones are killed and winter is close by, and seem to prefer their old queens rather than take chances on getting a young one fertilized. Don't winter a queen that has been clipped and at the head of a cell-building colony all summer; quit off in time to allow a young queen to become fertile and laying, and use another colony next summer.

The rearing of queens just when and where I wanted them, and in almost any numbers, with the colony storing in the sections just as fast as any other—no waiting for the swarming fever or old age to overtake some queen—is something that has given me great pleasure. That I believe it will be so with others is my reason for taking the trouble to write it out.

MAN WANTED.

I have an apairy of between 30 and 40 colonies, and I want a man of good habits to take charge of it the coming season or until August 1st. I would give him one-half the surplus, I furnishing the supplies and necessary tools. Or, if I could get a competent man, one who knows how to handle bees, I would pay him $20.00 a month and board.

CLINTON F. PULSIFER,
4-05-tf Nessen City, Mich.

Y Z

You're in a Hurry So am I

Only half a page this month—take you less time to read it.

But what about **Yellowzones?**

Perhaps you never ordered any—been putting it off till the present moment.

Then this is the time—Do it Now.

Over and over **YZ** will be a blessing to yourself and family.

Hardly a Pain or Fever they will not cure, and so easily you will hardly believe it.

Many lives saved by their timely use.

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Different from any other Remedy.

If you've used them you know it; if not you simply don't know what you're missing.

A few rightly put, at the start, will cure most acute diseases before you would think of a doctor.

A Box of 150 (with vial of Zonets for Liver and Bowels) costs you $1.00 and I don't know where else you'll get as good medical value.

You need them and the way to get them is to get them Right Now—not tomorrow, but Now.

Let me thank you now for your order.

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Ladies traveling to California appreciate the delightful home comforts of our superior Tourist Pullmans.

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Have you tried my queens? They are as good as money can buy; they are daughters of imported mothers; and no pains have been spared to mate them purely. When you send me an order I fill it promptly and guarantee perfect satisfaction. I have the three-banded Italians, goldens, Cyprians, Carniolans, Holy Lands and Albinos.

Untested queens, of either race, 7o cts. each; tested, $1.50; breeders, $3.00. Special prices on lots of a dozen or more. Two-frame nuclei a specialty.

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Beeville, Texas.

7-04-tf

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has the "LUCKY CURVE"

The "lucky curve" is a curve in the feed pipe that brings its inner opening out against the inside of the barrel of the pen, and this arrangement allows capillary attraction to suck the ink out of the feed-pipe when the pen end is held uppermost, thus preventing all leakage. At the same time the feed-pipe is kept moist with ink and ready for business.

There are other good features about the Parker. One is the almost impossibility of breaking the handle. If it breaks from any cause within a year a new one is sent free.

Mr. N. E. France, General Manager of the National Bee-Keepers' Association, has carried a Parker pen for years, and "swears by it," so to speak. I have carried one now for a year myself, and can truthfully say that I have derived more satisfaction from it than from any other fountain pen that I have ever carried, and I have tried several other kinds. I offered this pen last year in connection with the Review, and sold a large number of them, and I don't know of a dissatisfied customer. If there is, I want to hear from him. There are plenty of pens that I might offer for $1.00 and make more money than I am making on the Parker, but I care more to furnish my subscribers a good article at a fair profit, than to make a big profit on a cheap pen.

There are different styles of pens varying in price from $1.50 to $10.00, depending upon the finish of the handle. My pen cost $2.00 and, so far as practical use is concerned, is the equal of any; and I have made arrangements whereby I can send the REVIEW one year, and one of the $2.00 pens, for only $2.50. Safe arrival and satisfaction guaranteed, or money will be refunded.

W. Z. HUTCHINSON,

Flint, Michigan.

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8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with orders of $5.00 or over. Send for free list.

W. D. SOPER

R. D. 3 Jackson, Mich.

The Bee and Honey Co.

Wishes to sell you all of the bees and queens that you may need the coming season.

Catalog describing the six different races of bees that we breed, sent free. Get our prices before buying.

THE BEE AND HONEY CO.,

2-05-tf Beeville, Tex.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

HONEY QUEENS

LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians,
Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

W. H. Laws, Beeville, Tex.

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T. F. BINGHAM, FARWELL, MICH.

VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson.
Untested queens, 75c; after June 15, 60c
Tested queens, $1.00; after June 15, 75c
Selected tested queens, $1.25; after June 15, $1.00.
Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.



Save Time

By brushing both sides of a comb at once with a Ferry Bee Brush. Costs only 50 cts. His Hive Opener beats all for that purpose—only 25 cts See page 82 March Review. 4-05-1t

H. S. FERRY, Mt. Vernon, N. Y.



—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

Why he bought our

QUEENS.

I asked Mr. L. F. Weaver what he could say of our queens, and tell the truth, and here is his reply:

Shadeland, Ind., 2-8, 1905.

Friend Michael.

We received our first queens from you in 1903,—you will find that you sent me more queens in 904, and we expect to order a greater number in 1905. Why? Because your queens have met all our requirements, their workers being gentle, uniform in color and size, energetic hustlers and prosperous, in colony and store. We know not your method of rearing, and it makes no difference to us so long as we get such good and prolific queens.

Yours respectfully,
L. F. WEAVER.

J. F. MICHAEL,

3-05-3t R. F. D. No. 1, Winchester, Ind.

The New Century Queen Rearing Co.

Has all queen cells built in full colonies and under the most favorable conditions, while the system of mating allows the sale of queens at unusually low prices; also the utmost promptness in shipment. No claim is made that these queens are superior to all others, but they are certainly as good as can be reared; while for promptness of service and fairness of dealing they cannot be excelled

The following varieties are bred, and mated in different localities· Three-banded, and Golden Italians, and Carniolans. Prices for either variety are as follows: One tested queen, $1.00; six for $5.00; one untested queen, 75 cts., five for $3.75; ten for $6.00; fifteen for $8 25. Prices on nuclei and full colonies given upon application.

Safe arrival guaranteed. Send for discriptive circular.

NEW CENTURY QUEEN REARING CO.
3-05-tf Berclair, Texas.

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York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hansen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co., San Antonio, Texas., 438, Houston St.
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa,
Colorado Honey Producers Association, Denver, Colo
Fruit Growers' Ass'n., Grand Junction, Colo.
Arkansas Valley Honey Producers, Association, Rocky Ford, Colo.
R. C Aikin, Loveland, Colo.
Paul Bachert, Acton, Calif.
Chas H. Lilly & Co., Seattle, Wash.
Fred Foulger & Sons, Ogden, Utah.
A. Coppin, Wenona, Ill.
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C. B. Stevens & Co., Havana, Cuba.
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It is scattered all over the world and any one of the above will be glad to sell you Lewis Goods. The finest on the market.

G. B. LEWIS CO., Manufacturers of Bee-Keepers Supplies. Watertown, Wis., U. S. A

Make Your Own Hives.

Bee - Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

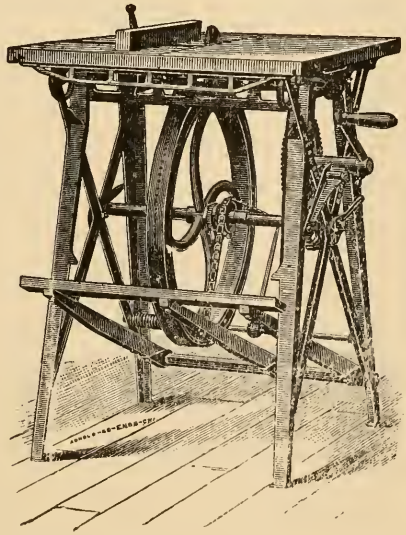
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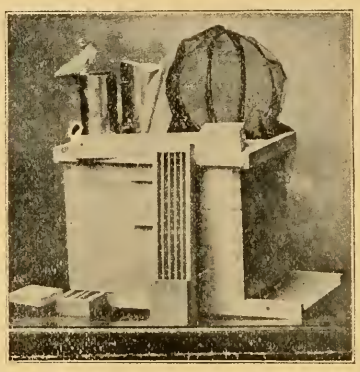
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384 Ruby St.,

Rockford, Ills.

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Dovetailed Hive Showing the Eastman Feeder in Position.

There is a growing demand for a feeder that can be used for simulative feeding in spring; one that can be left under the hive all summer, and one that can be used at all times without exciting robbing. The

EASTMAN FEEDER

fills the bill. We show one in place, one standing on end and one on cover.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

I CAN SELL GOODS CHEAPER than the majority of dealers can furnish them, and here are some of the reasons why: I am in the heart of the lumber regions, where lumber is cheap and there is no freight to pay; I am in a small country town where labor is cheap; I have new, up-to-date labor-saving machinery run by water power—the cheapest power in the world. Not only will I sell goods cheaper, but ***I will pay the freight*** to Chicago, St. Paul or Minneapolis, on shipments passing through those points. Send for my catalog and get my prices before ordering.

THE RURAL BEE KEEPER

A monthly bee journal devoted to the interest of the Bee Keepers of America will teach you how to make money with Bees. May number tells about feeding bees. July is devoted to Queen Rearing; August to marketing honey. September to preparation for winter; October, the wintering problem. I aim to give big value for your money. Swarming, and how it is being controlled to the cash benefit of the Bee Keeper, is the subject upon which the June number treats. It will be the purpose of the Rural Bee Keeper to champion the cause of the small country bee keeper, to show him the way to make money out of bees, by first showing how to produce the greatest amount of choice honey in the shape that will bring the best cash return with the least expense, and later will show him how to cash his crop. Subscribe now. Begin with the first issue and get fifty dollars worth of good sound information in one year for fifty cents.

IN THE FRONT RANK

Beverly, N. J., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

I must congratulate you on the reading matter you have in the Rural Bee Keeper, it is all that could be desired, and just what I have been wanting. I take seven Bee papers and consider yours only equaled by Gleanings and the Review. Every number so far has been worth more than the subscription price to me. I do not see how you can fail if the present standard is kept up. Wishing you success, I remain,

Yours truly,
JAMES T. FENNELL.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY—The honey market is overstocked, and consumption light. Beeswax is firm. We quote as follows: Fancy white, $2.50 per case of 24 sections; No. 1 white $2.25 per case of 24 sections; fancy amber $2.00 per case of 24 sections; white, extracted 6½c; amber 6c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
Mch. 31, 1905. 423 Walnut St, Kansas City, Mo

CINCINNATI—There is little, if any, improvement in the honey market here since our last quotation. We hope to render a more encouraging report soon

We quote amber extracted in barrels and cans at 5½ to 6½c. White clover at 7 to 8c; fancy white comb honey at 12 and 13c; beeswax 28c.

THE FRED W. MUTH CO.
Mch. 10-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—Fancy comb honey sells very well at 12 to 13c, but very slowly at more than that. other grades are dull, and require pushing to move at quotations. We quote as follows: Fancy white 12 to 13c; No. 1 white, 10 to 12c; fancy amber 9 to 10c; No. 1 amber 8 to 9c; fancy dark 8 to 9 c; No. 1 dark, 7 to 8c; white extracted, 4 to 6c; beeswax 28 to 30c.

BATTERSON & CO.,
Mar. 30 1905. Buffalo. N. Y.

PHILADELPHIA—Since our last quotations, honey has been gradually declining, and at the end of the season for comb honey especially, commission men and holders are offering at most any price to clear out their stock. We quote as follows: Fancy white 14c; No. 1, 11 to 12c; amber 11 c; white extracted 7 to 8c; amber, 5 to 6c; beeswax 28c. We are producers of honey and do not not handle on commission.

WM. A. SELSER,
March 10, 1905. 10 Vine Street,
Philadelphia, Pa.

KANSAS CITY—Market is fairly ative, but $1.50 per case is about all dealers want to pay. Large retail dealers buy direct, and sell to consumers. We quote as follows: White $1.75 per per case; white extracted 5½ to 6½c; amber, 4½ to 5c; dark, 4½; beeswax 28c.

C. C. CLEMONS & CO.
March 30, 1905 Kansas City, Mo.

CHICAGO—There has been somewhat of an increase in the number of sales during the past four weeks, yet the volume has not been large, while prices are if anything lower than in January, especially on other grades than white clover. Fancy grades of white comb, bring 12½ to 13c; No. 1, 12c, with some off in color, 8 to 10c; extracted white 6 to 7c, amber 5½ to 6½c, the price being governed by quality, flavor and package. Beeswax if clean and good color 30c per lb

R. A. BURNETT & CO.,
Mch. 8, 1905. 199 So. Water St.

CHICAGO—No material change from our quotations in last issue except that we have moved, during the past month, a good deal of Colorado Comb Honey, and are almost entirely cleaned up on Wisconsin stock.

If producers still have honey to ship, we advise letting it come forward.

Demand for strained honey limited, and supply equal to demand. We quote as follows: Fancy white, 13c; No. 1 white 11½ to 12½c; white, extracted 6½ to 7c; amber 6 to 6½c; beeswax 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
March 7, 1905. Chicago, Ill.

NEW YORK—The market is very quiet especially on comb honey; and cannot encourage shipping at this time. We quote as follows: Fancy white 13c; No. 1 white 12c; fancy amber 11c; No. 1 amber, 10c; fancy dark 9c; white, extracted 6½c; amber 5½ to 6c; dark 5c; beeswax 29c to 30c.

HILDRETH & SEGELKEN,
82-86 Murray St.
March 31, 1905. New York.

TOLEDO—The demand on comb honey is very limited, and the prices are as follows: Fancy white comb, in non-drip shipping cases 12½c to 13c; No. 1, 11½c to 12c, with no demand for amber or dark honey. White clover, extracted in barrels, 6 to 6½c; amber 5 to 5½c; beeswax 28 to 30c.

GRIGGS BROTHERS,
March 30-'05 Toledo, Ohio,

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives, Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

2-'05-tf

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 208

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, May 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee-Keeper	(.50)	1.40
Rural Bee-Keeper	(1 00)	1.75
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

THE SOLUTION OF THE BEE LITERATURE PROBLEM

Is never solved until it is solved right, and it is never solved until you are a subscriber for the **Western Bee Journal.** A new corps of writers have been secured for this paper, and what they will write will be new to you.

Subscribe to-day—**$1.00 a year.**

THE WESTERN BEE JOURNAL
P. F. ADELSBACH,
Editor,
KINGSBURY, CALIFORNIA



Eastern Oklahoma

Has the moist, healthful climate of the Central States; raises corn and cotton side by side; has a soil as rich as that of Central Illinois. Champion potato district of the United States.

The country is new, and land values are as yet comparatively low. They will soon be higher.

The Wonderland of Progress

Write for particulars.

GENERAL PASSENGER OFFICE
The Atchison, Topeka & Santa Fe Ry. System
Railway Exchange, Chicago

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

STANDARD

Poultry AND... Bee Supplies

The best of everything for the poultry and bee-keeper.

Freight Rates from TOLEDO are the Lowest.

BIG DISCOUNTS FOR EARLY ORDERS

Our 60-page Catalog is ready. Send for it. It's free.

GRIGGS BROS.

521 Griggs Block
Toledo, Ohio.

ORDER NOW.

If you want Bee Supplies of any kind you should send your order now. Later the rush will be so great that it will be impossible to fill all orders promptly.

We save you 25% on supplies of all kinds.

DOLL'S BEE SUPPLY MFG. CO.,

Power Bldg. Minneapolis, Minn.

The Wood Bee Hive and Box Co.,

Lansing, - Michigan

gives two per cent. discount until April 15 on the best Dove-tailed Hive made. Price, only $1.25 on a story and half hive. 200 second-hand hives for sale cheap.

12-04-tf

INCREASE is a handsome little book telling how to form new colonies without breaking stocks. A simple, sure, satisfactory plan. 25c.

BABY NUCLEI tells how to mate many queens from sections with a mere handful of bees. 42 pages, 20 pictures. Plain, cheap, simple. 50c.

QUEENS and **QUEEN REARING OUTFITS FOR SALE** Golden-all-over and Caucasian Queens. Circulars Free.

E. L. PRATT, Swarthmore, Penn.

Texas Queens.

From The Cotton Belt Apiaries. Queens from May 1st to Nov. 1st: One untested, 75 cents; 6 for $4.00, 12 for $7.50, 24 for $12.00, 50 for $23.50, 100 or 500 for $45.00 per hundred. Tested Queens, $1.00 each; breeders, the very best, $3 00 each. straight 5 band breeders $5.00 each.

Send for circular and price list which gives full information. Don't wait; place your orders early. Queens ready to go May 1st.

DENTON & RIBBLE,

4-05-1t Roxton, Tex.

WHEN YOU SEE THE YELLOW COVER **YZ** THINK OF YELLOWZONES

White Poplar

Four-piece sections for $2.70 to $3.00 a thousand. Write for circular and price-list of other supplies. 4-05-3t

W. H. NORTON, Skowhegan, Me.

Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Single queen, $1.00; six for $5.00; one dozen for $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

Nuclei for Spring-Delivery

ITALIAN QUEENS.

Either Golden or "Red Clover," before July at the following prices:

	1	6	12
Untested	$ 1 00	$ 5 00	$ 9 00
Warranted tested	1 25	7 00	13 00
Tested	1 50		
Select Tested	2 00		
Breeders from $5 up	1	6	12
2-frame nucleus (no queen)	$2 50	$14 00	$27 00

When Queens are wanted with Nuclei add price of any Queen wanted.

BATAVIA, ILL., Aug. 21, 1901

Mr. J. D Blocher—

Dear Sir : I thought I would let you know as to the results from the nuclei sent me. They were placed in ten-frame hives, and are now in fine condition. From one I removed 24 pounds of honey, and had to give six of them more room, as they were hanging out. They have more than reached my expectations.

Yours Resp., E. K. MERIDITH

Do not send personal checks unless you send 10c extra for collection.

D. J. BLOCHER, Pearl City, Ills.

Page & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1905 Catalogue and Illustrated Price Dist—free for the asking.

"DADANT'S FOUNDATION"

IT EXCELS.

We Guarantee Satisfaction.

BEE=SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

A. G. Woodman, Grand Rapids,
Agents for Michigan.

DADANT & SONS, Hamilton, Ill.

Bees and Queens

Have you tried my queens? They are as good as money can buy; they are daughters of imported mothers; and no pains have been spared to mate them purely. When you send me an order I fill it promptly and guarantee perfect satisfaction. I have the three-banded Italians, goldens, Cyprians, Carniolans, Holy Lands and Albinos.

Untested queens, of either race, 7 cts. each; tested, $1.50; breeders, $3.00. Special prices on lots of a dozen or more. Two-frame nuclei a specialty.

B. H. STANLEY,
Beeville, Texas.

7-04-tf

BEE-SUPPLIES.

Lewis' Goods at Factory Prices.

Best shipping point in the United States. Special inducements on bee-hives. 88 page Catalog—good information for all bee-keepers—free. Ask about our free pocket mirror.

C. M. SCOTT & CO.,

1002 E. Washington St.
INDIANAPOLIS, IND

3-05-5t



H. H. HYDE, San Antonio, Texas.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, MAY 15, 1905. NO. 5.

Managing 1,000 Colonies of Bees Down in Texas.

BY H. H. HYDE.

VERY different management is necessary for the successful handling of out-apiaries from that used in the home-apiary. With a home-yard the work can be done a little at a time; queens may be clipped and the bees allowed to swarm naturally; hives and supers may be fixed up only as needed; a distant market is not needed, as the apiarist can sell his entire product at home; hired help does not have to be considered; the apiarist can most profitably buy any queens he may need; comb honey can be more successfully produced, because the apiarist can be with the bees every day, and see every little detail; the bee-keeper may be a very slow-moving man, whereas, to make a success of out-apiaries, the man must be a hustler. With a home-apiary, transportation to and from work does not have to be considered; in fact, we might go on with an endless list of the ways in which out-apiary work and management differs from that of the home-apiary. Not only must the manager of an out-apiary be a hustler in order to succeed, but he must be a man who can think and plan the work days and months ahead, as well as one always ready for emergencies; and above all, one that can successfully use hired help. In bee-keeping, I place the man first; the location second; and the kind of bees and hives third.

THE SELECTION OF LOCATIONS FOR OUT-APIARIES.

It is folly to attempt to run a large lot of bees in a poor locality; we must have a good locality to begin with. It is best to say to the owner of the land, "We are no trespassers; we appreciate the privilege of placing the bees on your land, and will pay you a certain sum yearly." If you will do this, and treat the man right, you will very seldom have to change the location. Secure locations, if possible, near running water; if not, then near a good pool or tank. It is well to have shade if possible; but, if not, then double covers on the hives will be all right, in fact I

prefer a good double cover to any natural shade or shade-boards.

Locations should be as near together as possible; either in a circle, or in a long double line, and so connected that all the bees may be seen before it is necessary for the workmen to come in.

As many bees should be kept in each location as the location will stand. The fewer out-yards, to the number of colonies the better. These locations should also be as close together as it is possible to place them for best results. In our country 100 colonies every 2½ miles is the rule I have found best to go by, but each man will have to determine this from experience, for himself. I do not advise the putting up of permanent houses at each yard. With us it is unnecessary; as we always use a movable extracting house that is carried from yard to yard in taking off honey. Bulk-comb and section honey are always carried home in the supers, and, at the home-yard, a large, well-built house is necessary for the proper packing of the honey. In this house all supers are cleaned up and supplied with foundation. Very often a team will take out a load of empty supers and bring in a load of honey. A crew of efficient helpers can go from yard to yard and do the work, while a *cheap* man can haul in the honey.

A portable tent is also used by some in Texas for an extracting house, and is all right and easier to carry than the house on wheels. All extracted honey is put into barrels, and there remains until sold. Bulk comb honey is nicely stacked up in the supers and there remains until we are ready to pack and ship out.

HOW TO EMPLOY HELP TO ADVANTAGE.

With out-apiaries it is necessary to have experienced helpers, they must be utilized to the utmost; therefore, have experienced men to do the manipulations and actual work in the apiary, while most of the work of making hives fixing up supers, hauling of them out, and the work of hauling in and packing of the honey, may be done with cheaper and less experienced men. My experience is that one reliable, expert bee-keeper, with two good assistants, in addition to the owner, make enough expert help for running 1,000 colonies of bees in out-apiaries.

The owner should figure out how many hives and supers he will need the next season; then get them in time, and have them all ready for use by the time that spring opens up; for he will have no time then to get ready; he must be ready in advance. With his hives, supers and equipment ready and in good shape when the early spring-work opens up, he will have nothing to do except to give the bees every attention. Before beginning the spring-work, a suitable camping outfit should be provided for the apiary-force, and arranged so that the men can have every convenience possible for a camping-out-life. A good folding tent and a folding spring cot for each man are indispensible; and, if one of the apiarymen is not a good cook, then a cheap man should be provided; one who can also assist the men in whatever way he can when not otherwise employed. A light spring-hack is just the thing for the men to go in from place to place, and to carry the camping and work-outfit.

EARLY SPRING-MANAGEMENT—FIXED FRAMES.

The first thing that we do in the spring is to go through every colony and thoroughly overhaul them. By this time (Feb. 15th) all should have a little brood on the way. If we see none we scratch the face of a frame of capped honey, and leave it right in the center of the cluster. The next time we come, if no brood is present, we look for the queen; and, if queenless, unite with some other weak hive having a queen. Colonies that we

think have inferior queens are marked, and, if they show no improvement, they are requeened at the earliest time practicable. During one or the other of the first two over-haulings we thoroughly clean the hives and frames of all propolis and burr combs by scraping. One man can clean from 25 to 50 colonies per day; and if the bees are so treated every spring, the result is that we always have clean hives and frames to handle; and the saving in manipulations later pay for this work many times over. In this connection let me remark that for out-apiaries and hired help no one can afford to tolerate loose frames. Use either the Hoffman or closed-end frames. Hired help cannot be relied upon to properly space loose frames. Again, when you wish to move the bees, and in hauling hives and supers to and from the yards, fixed frames are so far superior as to need no further argument. Some have claimed that propolis was so bad with them that they could not tolerate fixed frames. If these same people will thoroughly clean their frames each spring, I think that they will soon favor the Hoffman or other fixed frame.

After the queens have commenced to breed rapidly, I recommend the equalizing of brood among all colonies having good queens; and, at this juncture, I would begin to systematically spread the brood. As soon as there are two, good, full, well-capped frames of brood in the center of the brood nest, I would insert between them a frame partly full of honey and partly empty, and on each side of the two frames of brood, place a frame similar to the one put in the center, placing the pollen frames just outside these frames. If the weather is good, the center frame will at once be filled with eggs, and, as fast as the capped frames of brood hatch, the other two outside frames will likewise be filled. As soon as there are five frames of brood it is a simple matter to place one or more frames at a time between the filled frames of brood, and so on until the entire hive is filled with brood. The spreading of brood is all right when properly done by experienced men, but not advisable when done by others.

As the spring proceeds, and the bees become stronger, our object is to keep them from swarming, and yet have them as strong as possible when the honey flow commences, which, with us, is from April 1st to May 1st, owing to locality. If the colonies become full of brood, and show signs of swarming, we draw brood and bees from them, and give empty combs or foundation; draw just enough and give the queen just enough empty room, to keep down swarming. With the brood and bees removed, new colonies may be made by putting enough together, or nuclei can be started with two or more of the frames of brood or bees; and a queen cell or virgin queen given them from cells already started for the purpose, or from cells cut from colonies that may have the swarming fever.

Swarming is the greatest problem to meet in the successful manipulation of out-apiaries; but, with *us*, if we can hold it down until the *flow commences*, and the bees once start in the supers, we have no more swarming. This is a peculiarity of all the Southwestern States, and a very *good* peculiarity, too. If we cannot keep down swarming, and the bees get the fever too bad, then we resort to the well-known "shook-swarming," throwing all the bees of two colonies together, giving one queen to the bees, and one to the brood, and, a few days later, again shake all the hatched bees from the brood into the hive of bees, so as to augment their strength.

SHALLOW SUPERS AND HOW THEY MAY BE USED TO ADVANTAGE.

Whether comb or extracted honey is to be produced, it is our practice to have one shallow super of combs (5⅜

deep) for each hive; and, as this super is usually left over or under the brood nest the previous fall, it usually contains some honey.

As soon in the spring as the colonies begin to become strong, this super of combs is always placed *over* the brood nest, and in very many, or the majority, of cases the queen has it partially or entirely filled with brood by the time the honey flow comes on.

This super of combs, or brood, as the case may be, catches the early dribs, and we do not have to put on other empty supers until the honey flow is on in earnest. This super of combs also helps to keep down swarming, and makes the use of baits in sections or other supers unnecessary. By their use, the bees at once enter the empty super and go to work. Anything that lessens swarming and work for out-yards will pay anyone to thoroughly investigate.

After the first new super, or, in reality, the second super, is on the hive, we tier up the same as for home-yards, except that we are *sure* to give *abundant room*. If in doubt, the additional super is put on top of the filled ones, instead of under, as is ordinarily done in tiering up. The supers of combs will be empty of brood, and full of extracted honey, at the end of the flow; and, if we are running for bulk comb honey, we have a very good use for it; if not, it is certainly no drug, especially as we have fully that much more honey than we would have had without their use. For extracted honey I also prefer these shallow supers, because so much lighter to handle, and from the fact that I do not find it practicable to have or use bee-escapes at out-yards. These shallow supers allow us to rid them of bees the same as section supers, which we do by a combination of smoking and jouncing, and then stacking them up with a small hole left at the top of the stack, when in an hour's time, nearly every bee has left. This is my method of taking off the honey; and in this connection let me also get a "dig" at queen excluders, for in the words of one of our largest honey producers, they are in truth and reality "honey excluders." They can be very easily dispensed with, and are just that much less machinery to handle and that much less expense. Another thing, whether you use 8-frame or 10-frame hives, discard division boards; at least, during the busy season, as it takes too much valuable time to insert and remove them when rapidly working the bees.

I have already stated that I prefer to have extracted honey put up in barrels at the yards, and that I prefer to pack comb honey at home, and to leave the bees, after taking off the spring crop, in the proper shape to catch the summer flow. The early honey should be hustled off at once, the supers filled with foundation, and returned. As to the bees, we should at once see that none have become queenless since the spring overhauling, and they should be left with the brood nest and the super of combs until the next honey flow, should it come. If we feel sure the later flow is coming, we spread brood enough to get the hives again well filled with brood; and this is an easy matter, for, with us, immediately after the spring flow is over, and the honey is off, the bees begin breeding as it it were spring again.

After the summer flow is over, the bee-keeper should requeen his apiary. While this holds good always, it is especially so with out-apiaries. Every spring, and every fall, the bees should be requeened, that is, all queens replaced that do not come up to the standard of prolificness; and, of course, all queens showing their age should be removed before they entirely fail. It is an easy matter for the experienced bee-keeper to know when to replace queens, and he should see that this important work is not neglected.

LARGE HIVES AND PROLIFIC QUEENS.

Large hives and a prolific race of bees, are very essential to the out-apiary man, and nothing less than a ten-frame Langstroth should be used. Plenty of honey should be left on the hives at all times, plenty of room provided for the queen, and we must have a large hive, and, further, a prolific race of bees. The out-apiary man has no time to patch up crooked combs, or combs partly drone, neither is it possible for him to always keep his hives perfectly level, therefore the use of full sheets of foundation are not only advisable but almost an absolute necessity. Right here, let me enter a plea for good and well-made hives. Unless the bee-keeper is fortunately situated, is an expert mechanic, and has suitable tools, he better pay from 50 to 100 per cent. more, if necessary, for his hives, rather than try to make them himself. For me, I want nothing but the *best* in my yards. Good, *well-fitting* hives are far cheaper in the long run, and always permit of easy and rapid manipulation; a very important factor with the out-apiary man.

MAKING INCREASE.

I have already related how I keep down increase by drawing from the bees, or by shaking them, the object being to hold the bees together during the honey flow; now, if we want increase at the time of shaking, if we follow that plan, we can set the two bodies of brood on separate stands, and give each a queen, or a ripe cell, and we have made 50 per cent. increase, that is very easily secured, though at the loss of some honey. If we have made some nuclei previous to shaking, some of the brood can be very advantageously given to strengthen the nuclei thus started. My favorite plan of increase is to have a set of combs built out during the last summer honey flow, one set for every colony of increase I wish to make, and then, immediately after the flow ceases, draw some brood and bees in exchange for the combs from all the colonies, making such increase as I think I can profitably, giving such increase young queens, previously reared; and I will say here that with the use of "baby nuclei," (a term given them by me, and accepted by friend Laws) the apiarist can always have young queens when he wants them.

HIRED HELP AND LETTING BEES ON SHARES.

Hired help is the most important thing for the man to consider who wishes to start a system of out-apiaries, and the man is indeed fortunate who secures the right kind of help. There is much for the employer and the employee to learn, and each should do his part to make things pleasant. As a rule, if the owner can pick up bright intelligent young men, and teach them the business, he will get better results than he will to advertise and take what he can get. The question may come up, why not put bees out on shares? I will say that I believe this is really the best policy, where you can get a good man. Furnish him a complete outfit, and, say, 500 colonies of bees; you furnishing everything, including additional help, and charge all expenses to his lot of bees, and credit with all returns on honey and wax, and, at the same time, pay him a small salary; then, at the end of the year, pay him a certain per cent. of the net profits; thus making him interested in the profits of the business. In a good year he has a handsome reward for his labors; while in a poor year he has a living. If a man wishes to run over 1,000 colonies of bees, or they are two widely scattered, my advice is to give this plan a trial.

Now, Mr. Editor, among the things that I know now that I did not know when I began running out-apiaries, I will say that I have found large hives

and a prolific race of bees a necessity. I have discarded queen excluders, division boards and bee escapes. I now use full sheets of foundation, and fixed frames, and would have no other.

I have conquered the swarming problem, and know that not only extracted honey, but comb honey as well, can be successfully produced in outyards. I have learned that bees must be kept with good prolific queens, and plenty of honey left with the bees at all times, and, above all, the bees put into winter quarters in the best of condition, for, on this, most largely, depends success or failure the coming year.

San Antonio, Texas, Nov. 11, 1904.

Producing Extracted Honey in a Foul Broody Apiary.

BY ELMER TODD.

I WILL state that I am in a locality like the one mentioned on page 334 of the Review for October, 1904, that is, there is foul brood here, yet I run half my bees for extracted honey. I have given foul brood considerable study, extending over a period of 14 years, carrying on experiments with it that would have been more appropriate for an experiment station than for an individual to undertake. From my experience, I will give some easy, inexpensive methods whereby your subscriber, if he understands foul brood, and, is moderately careful, can handle the disease as easily while producing extracted honey as though he were producing comb honey.

A QUEEN EXCLUDER NECESSARY.

Use a queen-excluding zinc between the upper and lower stories, thus confining the queen below, and extract from no comb from the lower story, or from any comb containing brood; also be careful, when filling the upper story for extracting, to use no combs taken from diseased or dead colonies, such as may contain the dried down scales of the diseased. Do this, and foul brood can be as easily controlled as though the apiary were managed for comb honey.

HOW FOUL BROOD IS SPREAD IN AN EXTRACTING APIARY

The principal causes why foul brood spreads faster in an extracting apiary, is due to extracting from combs containing brood, some of which is, occasionally, diseased, and then transferring such combs to healthy colonies. With such management, the extractor also becomes a source of contagion, and might disease a whole apiary if it were not cleaned after extracting even one set of combs containing brood taken from a diseased colony.

A colony badly diseased will not store much, if any, surplus, either of comb or extracted honey, and, the sooner it is attended to (if any are allowed to get in that condition) the safer it will be; as such a colony is liable to swarm out and leave its combs to be cleaned out by other bees. While the danger of robbing is always present at any intermission or stoppage of a honey flow, robbers will plunder an abandoned hive at times when a few bees at the entrance of a weak colony, with the entrance nar-

rowed down, would "stand off" the attack. The greatest danger lies in a badly diseased colony being liable to abscond at any unseasonable time, when the first intimation of trouble is usually that of finding robbers in full possession.

Right here let me say that the quickest, easiest and surest way of curing a colony of foul brood, is by the McEvoy method.

As to renovating combs with formalin gas, I have not yet tested it long enough to say anything positive about it.

A COLONY ONLY SLIGHTLY DISEASED WILL STORE SURPLUS.

A diseased colony that comes up to the expected honeyflow not perceptibly weakened in numbers, will be safe for that season; as, on the incoming of the fresh honey the disease will not increase, but rather *decrease*; and this will hold good up to the end of the honey flow. In such a colony the disease will not impair the honey gathering and storing capacities, whether it is run for comb or extracted honey; and a colony with the queen excluded from the extracting combs is no more of a menace to the balance of the apiary than the same colony would be were it run for comb honey; and, with a careful apiarist, one who thoroughly understands foul brood, the danger of the disease spreading from such a colony is very slight.

To prove this, before trying it extensively, extract some combs from such a colony, having the queen excluded from the surplus combs, and give one or two such combs, right from the extractor, to a nucleus that you know is free from foul brood. If it is present in the honey left on those combs, it will be very apt to appear in nucleus in from one to three weeks. I have used such combs *repeatedly*, till I proved it could be done with safety.

Yes, foul brood is sometimes in the honey, but when it is in extracted honey, I will venture to say that, 99 times out of 100, the germs or spores were put there by the apiarist himself, by extracting from combs from diseased colonies containing brood or dry scales of the disease.

GUARDING AGAINST ROBBERS.

When a diseased colony is cleaned out by robbers, then the germs are in the honey the bees carry home, sure enough, because the robbers carry off some of the contents of diseased cells, as well as the honey, and if such honey is stored in extracting combs it will make trouble; but this danger can be avoided by having the extracting combs off the hives before danger of robbing is at hand. In this locality the robbing of diseased colonies is mostly done during the fall and early spring.

LETTING NEWLY HIVED SWARMS STORE EXTRACTED HONEY.

Another easy and sure plan, involving no risk whatever, and one that I have used with good success, is to arrange all colonies, at the opening of the clover flow, for comb honey, then use all clover *swarms* for extracting, hiving them on starters of foundation in the brood nest. By this management, I not only get a lot of new combs, but the bees are perfectly healthy, after four or five days, even if some, or all, of the swarms have issued from foul broody hives, as, by their being hived on starters they are given the essential part of the McEvoy treatment, in being compelled to use up, in comb building, what honey they carried from the diseased colony. This plan is possible here, as our honey flow is of rather long duration, in those years when clover yields, the flow lasting with slight intermission, from June till September 12th to 20th.

Where so much comb honey would not be desirable, or a short honey flow not admitting of it, this latter plan could be modified by arranging only

the slightly diseased, or doubtful colonies for comb honey, putting extracting combs on all known healthy colonies. This should be done at the commencement of the honey flow; and by the way, then would be your time to "get busy," and shake upon starters of foundation, or otherwise dispose of all diseased colonies that are too weak to go to work in the sections.

York, Neb., Oct. 21, 1904.

[While I would not like to publish anything that would lessen the necessary caution in treating foul brood, I must agree with Mr. Todd in thinking that the possibilities are very slight for honey in the supers to be contaminated, if all brood, and brood combs, are kept out of them. When honey is being stored in the supers, everything is covered up with new honey, and even the foul brood itself practically disappears in many cases. It is only when the harvest is over, and the old stores, from diseased cells in the brood nest, are again drawn upon, that the disease again appears. Time and again have I heard Mr. McEvoy say that clean white combs from the supers, combs that had never contained brood, were perfectly safe to use when emptied of honey and cleaned by the bees. It is quite likely that, in the majority of cases, if not at all times, such honey is free from contamination. I remember that Mr. R. I. Taylor once experimented by taking honey from a foul broody colony (I don't now remember whether it was from the super, or an outside brood comb) and giving it to other colonies without their contracting the disease.

As I have already said, I would caution against recklessness, but there are some things yet to be learned about foul brood, and this may be one of them. Once we thought it necessary to burn up hives, bees, combs and honey—then, gradually, we began to learn to save first one thing, then another, and that honey in the supers is not contaminated may be the next thing we will learn.—Ed. Review.]

The Sibbald Method Ahead of Shook-Swarming.

BY WM. M'EVOY.

FRIEND HUTCHINSON, I have, for years, practiced the same method as Sibbald's, except that I place three combs of brood in the center of a hive, fill out the hive with empty combs, lift the old hive of bees off the stand, place the hive of combs with its three combs of brood in on the old stand, and then move the old hive of bees about on the Heddon plan until I get all the field bees back on the old stand. Sometimes I give a comb with a queen cell about ready to hatch which I took from a colony that had swarmed. The old colony I had moved away, as in the Sibbald plan, had the old laying queen to keep it up in bees. All the difference between Sibbald's plan and mine is that he uses one comb of brood, two empty combs, and the rest of the frames supplied with starters, while I use three combs of brood and the balance of the hive is filled out with empty combs. Sibbald's plan is an improvement over mine, because it will control swarming better than mine; and also

secure a greater amount of surplus honey; but some of his colonies may need more feeding in the fall. That's nothing, however, if we get enough more honey to pay for the feeding, as sugar syrup is much better for winter.

By shaking off part of the bees at the old stand, and then carrying the old colony to a new stand, when following up Mr. Sibbald's method, we can make a great success of his system, because, it will be remembered, that he places the super full of bees on his prepared hive on the old stand, and that these supers are half full of *young* bees at the time, and these will take the place of the old ones that wear out before young ones are reared.

We also know that when the old colony is carried to a new stand, the field bees will return to the old stand, leaving the young bees and old queen on the new stand to build up into a fine colony. Where no increase is wanted, we can, after three days, bring the old colony back close to its former stand, and, with Mr. Heddon's "jumping plans," reinforce the bees on the old stand, and, a little later, unite the same as Mr. Sibbald does.

WOODBURN, Ont., April 24, 1905.

Finding Queen Cells Without the Opening of Hives.

BY F. H. CYRENIUS.

ADVANCED methods of comb honey production require an examination for queen cells once in seven or eight days during the honey flow, or swarming season, or else the practice of natural swarming.

To remove the supers and take out the combs of a hive crowded with bees (as they always are at this time) is a tedious job compared with simply tipping the hive back, if the supers were only secured so they would not slide off.

It is an indisputable fact that bees will store more honey over a hive full of brood, so long as they do not attempt to swarm, than by any other plan or condition. This being the case, why disturb or change them so long as they do not make preparations to swarm?

The proper time to do the shook-swarming act is after queen cells are started; and I believe no plan is superior to that described in the March Review by Mr. Sibbald.

As ventilation very much retards swarming, I should recommend the Pettit tapered pieces under the hives at the approach of hot weather.

When the swarming time comes, it would be an easy matter to tip up a brood-nest and look for queen cells were it not for the supers sliding off, and to prevent that I have devised a simple clamp for securely holding the supers in place so that the hive may be tipped back and the condition of the brood nest seen at a glance.

The clamp is made of straight-grain, hardwood, 1¼ inches square, tapered at one end, with a block nailed on each of the four sides, which gives the proper fulcrum with *eight* bearings so it can be adjusted to take up all the slack cord.

On the tapered end is attached a cord with a hook to grapple in the back hand-hole of hive, after which the lever is turned to take up all the slack cord.







Now place the other or detached hook in the front hand-hole. Now bear down on lever until the proper pressure to securely hold the supers is attained, and wind the cord around the lever a sufficient number of times to securely hold it as the hive is tipped up.

Be sure the cords are wound in *opposite* directions around the lever, so that it will not turn, as it would if both cords pulled on the *same* side.

Now grasp the lever around where the cord was just wound, which will prevent it from slipping, and also furnish a very convenient handle for tipping the hive.

If the hive cover is strong enough to withstand the strain it will not be necessary to remove it. If the cover is not strong enough, it must be removed and a piece of board laid across the super to receive the strain. With a little practice any one will soon become efficient in its use.

Blow a little smoke in the entrance before adjusting, then a little more, and tip the hive back, and smoke the bees up out of the way.

With this simple device 100 or more colonies may be examined per hour, and if this examination be made every seven or eight days there need be no fear from swarming.

OSWEGO, N. Y., May 5, 1905.

[Tipping the hive over may seem rather awkward and laborious, but I have given it a trial and it is really quicker and easier than one would think. Mr. Cyrenius sent me one of his clamps, and I went out and rigged up a hive with supers, and gave the arrangement a trial. I can put it in place in five seconds. Then give the bees a puff of smoke and the whole business may be tipped back with perfect safety, like a solid block, or a single-story hive. A little smoke at the bottom of the combs will drive up the bees and allow a most perfect examination of the lower part of the combs.—ED. REVIEW.]

Criticism of the Sibbald Method. Another Plan.

BY F. GREINER.

MR. EDITOR, I am free to say that I have looked with even greater anxiety for the April Review, in which I *expected* to find adverse criticism of the Sibbald method, than I did for the March issue with the promised original.

I am not a little surprised to think that such experienced men as you, Mr. Editor, as well as Mr. E. R. Root, should be so taken up with a method of handling bees, as the Sibbald, for the production of comb honey. In my estimation it has nothing to commend it.

THE CONDITION OF COLONIES OF MUCH IMPORTANCE.

The one point which the bee-keeper ought always to keep in sight, is, how he can bring about the best *conditions* for his bees; how he can put them in such shape that they will work in the sections *at once* and *vigorously* at that; storing the largest amount of white honey.

In looking at the two divisions of the colony made by Mr. Sibbald, what have we? One is robbed of a large part of the field bees, and one brood comb with the adhering young bees, etc. For perhaps a week, or more, little can be expected of it; practically, it *loses* this time, right during the heaviest honey flow; and, if another "draft" is made on it, will lose even more time. This would be bad.

The other division is in even worse shape. It has no queen; it has only a few young bees; but, if we have good luck, we may have the larger part of the field bees. Probably quite a few young bees were added with the super from the parent colony. Mr. Sibbald says, "The bees in this colony will build but little comb in the brood chamber, but, instead, work in the sections." His bees must be more accommodating than they would be hereabouts. A queenless colony builds little comb anyhow; what it does build, is largely in the brood chamber and of *drone* size—a very undesirable thing.

The colony could not possibly have even a virgin queen sooner than eight or ten days; and, under these conditions, even with more bees in the hive than can possibly be there, we would lose the ten days or more right in the honey season.

It does not seem to me that we could make a worse blunder than to break up our colonies, *a la* Sibbald; on the other hand, managed by the shook-plan, we at once have each original good colony in working trim, and we can keep them thus by re-enforcements from the parent colony.

THE DOOLITTLE PLAN OF MAKING INCREASE.

With the Sibbald plan it would be quite essential that the to-be treated-colony should have started queen cells. Many bee-keepers think the best time to "shake" is when queen cells are started and pretty well along, or nearly sealed, but it seems to me that the success of the shook method is independent as to this. Other bee masters think so. Our friend Stachelhausen is one. We have another old bee-master here in this part of New York State, Mr. E. Becker, of Vine Valley; he does not pose as a writer, but, nevertheless, we can be proud of calling him one of our number, and swarms are a rare thing with him.

The method he has practiced for 35 years or more is similar to the Doolittle, except he does no "shaking." Each of two colonies, when in proper strength, has half of its brood combs removed, frames with comb foundation being given instead, alternated with the remaining brood combs, and sufficient section room is given. A third colony is moved from its stand, and the flying bees, or field-bees, are utilized to make up a colony with the brood combs taken from the first two colonies. In this fashion the increase amounts to 33⅓ per cent., with no swarming, and a good average honey yield. He rears his queens from such colonies as give him the largest yields, regardless of color of the bees. He says his black bees work on red clover as well as his Italians.

Mr. Editor, if you should come to these parts during the warm season, I will give you a ride on our beautiful Canandaigua lake, and take you to see Mr. Becker at Vine Valley. You will be pleased to meet him.

The above desirable plan works well in Mr. Becker's locality; it *might* not in Michigan or Texas. One of the essential things, according to Mr. Becker, is that bees must not get into the *notion* of swarming, but must be taken before they start queen-cells. In handling out-yards it is not always practical to wait till they do before we treat them.

NAPLES, N. Y., April 17, 1905.

Editorial

"Where timorous knowledge stands abashed, audacious ignorance hath done the deed."

The Truth about many things is eventually learned only after discarding many falsehoods.

The Review Editor is a bee-keeper once more. He is beginning the season with nine colonies; and, by using full sheets of foundation, and furnishing queens, is going to see what he can do in the way of increasing them.

Stings on the hands may be largely prevented by washing the hands in strong vinegar, says Ira D. Brrtlett, of East Jordan, Mich. He says it is really amusing to see the bees dart at the hands, and then dodge back just as they have touched or nearly touched the skin. It is probably the odor that does the business.

The Rural Bee-Keeper has advanced its price to $1.00 a year, and it is worth it. Experience seems to prove that it is a difficult matter to profitably publish a good bee journal, even if only a monthly, for less than $1.00 a year.

The Illinois State Bee-Keepers' Association is out with its fourth annual report. It is very neatly printed by the American Bee Journal, and contains, also, a report of the proceedings of the Northwestern Convention.

Arthur C. Miller, I am pleased to announce, has consented to become one the editors of the American Bee-Keeper. Mr. Miller has had a lot of experience as a bee-keeper, especially that of an experimental, scientific kind, has a good education, wields a facile pen, and he and Bro. Hill will certainly make a "team." The American Bee-Keeper is to be congratulated.

This Issue of the Review is a little late, as we were waiting to have illustrations made to go with the Cyrenius article—it seemed as though it ought to appear in this issue in order to be of much use this year, and it came to hand just as we were almost ready to go to press.

Smoke must be used with judgment when using it to release a queen from a ball of bees. If *hot* smoke is blown upon the bees they are quite likely to sting the queen. If the smoker is held so far away that the smoke is cool before it reaches the bees they will release her without harm as surely as though the ball had been placed in a dish of water.

The National Association will meet in San Antonio, Texas, probably during the International Fair that will be held in that place the latter part of October and fore part of November. When this fair is in progress, low rates are given for 600 or 700 miles from San Antonio. At that time of the year there are usually excursion rates from nearly all parts of the country, those from Chicago being only $20.00 for the round trip. Exact dates will be decided upon as soon as the fair managers and railroads decide upon dates.

Observation Hives, as usually made, are rather meager in the facilities that they afford for actual observation, but the A. I. Root Co. has been making a hive for Mr. Edward F. Bigelow, of Stamford, Conn., which allows of most extended observations. It is particularly adapted for use in dwellings and for lectures in school rooms, and the like. Any one interested should send for a copy of May 1st Gleanings and read about it. It is well-illustrated and there are several pages of description.

Mr. Abbott, at the Northwestern convention last fall, as he has at other times, placed great stress upon the desirability of caging the new queen in the colony to which she is to be introduced, a day or two before the removal of the old queen. When the old queen is found and removed he would then allow the bees to release the new queen. With this management, he says queens are universally accepted.

Mr. W. A Chrysler, of Chatham, Ont., when renewing his subscription to the Review, mentioned having secured 100 pounds of surplus honey, per colony, in one location, from a plant that a Professor at the Guelph Agricultural College calls Spurges, but he could not give the exact species, on account of the imperfect nature of the specimens sent him. The Professor goes on to say that all of the Spurges are poisonous plants, and to be avoided at all times. These plants have a milky juice which is poisonous, and the Professor thinks it probable that the bees, while collecting the nectar, also come in contact with the juice. He says, still further, that honey made from the nectar of these plants is hot and disagreeable to the taste, and likely to cause vomiting and purging. Mr. Chrysler does not mention any such results from the eating of the honey, but he is fearful of the bees wintering well on this honey. He has never before seen nor heard of such honey.

Advertisements in some of the farm-papers, and general newspapers, urge upon city people, villagers, farmers—especially women folks—to go into bee-keeping. They tell how profitable, fascinating and healthful it is, and how easily it is learned. I suppose it may be "business" for the manufacturers of supplies, and the publishers of bee journals, to thus help to make additions to our ranks, but, if this thing

is carried too far we will soon have to start another "League." Seriously, it seems to me that it would be better if the publishers of bee journals devoted all of their energies to the betterment of existing bee-keepers, instead of trying to augment their numbers. It does not seem like a kindness to either the new recruits nor to the old hands, when we urge people to enter bee-keeping at the same time that we are donating hundreds of dollars to try and lift the honey market even to a normal plane.

Twenty per cent. of the receipts will now be paid General Manager France, instead of 15 per cent. as heretofore. The Board of Directors has so decided by a practically unanimous vote. Even this will be small pay for the amount of work that Mr. France does for bee-keepers. Last year he neglected his regular foul brood work to work for the National, to such an extent that $200 of the foul brood fund remained unused. This means that Mr. France lost just that much money that he might have earned. We have never had a manager the equal of Mr. France, and we certainly ought to pay all that it is possible for us to pay him. Only recently Mr. France wrote numerous letters, then rode all night, spent three days' time, $12.00 railroad fare, hotel bills, etc , in order to secure a reduction in the freight rate on the round, jacketed, tin cans filled with honey. He succeeded, too, and, hereafter, they will be rated as fourth class freight. This is the kind of a man to have as Manager, and when we have got such a man we better keep him if we can.

Questions Answered Regarding the Making of Rapid Increase.

A subscriber wants to know if I bought $2.00-queens when making three colonies build up to 33 in one season. No, I was in the queen rearing business at the time, and there were always plenty of queens in the yard to spare. Queens can be reared for this purpose, or, in the summer, they can be bought for 50 cts each.

My friend also wishes to know if I had hives full of empty combs. No; I used full sheets of foundation.

Still further, he would like to know if I kept the entrance closed, for a few days, to the hive of a newly made colony. No; the bees were allowed to fly freely. Most of the old bees would of course, return to their old homes; but there would soon be a flying-force of bees that had never flown from any other hive.

The Foretelling of Swarming.

The tendency of the times is to the keeping of more bees; to the establishing of out-apiaries; and to the controlling of swarming, either by "shaking," or by some other method, of which the Sibbald is an illustration. The great obstacle to this plan is to know in advance if a colony is making preparations for swarming. If a colony will keep on working, with no thoughts of swarming, well and good, we don't wish to disturb it; but the only way to know whether it is on swarming bent, is to examine the brood combs for queen cells. With a populous colony, upon which are two or three supers, it is a somewhat unpleasant, laborious and time-consuming task. It is very evident that some method will be developed whereby this examination can be quickly and easily made. One plan is described in this issue of the Review.

The Need of an Avocation.

Mr. Jas. H. Canfield, in the May Cosmopolitan, in a most excellent article entitled "The Philosophy of Staying in Harness," says, among other things, "With very rare and brilliant exceptions, he is necessarily and always a man of limited horizon, of

narrow circle, whose entire time and strength go, lifelong, to his vocation. Every man should have at least one avocation, to which he may turn for that change of life-current which is far more restful than mere idleness. Some intellectual diversion should always be in hand; growing larger and more generous, more valuable more engrossing, with passing years. It may be that in middle life the avocation will claim quite as much time and strength as the vocation, and it may even happen that in later years the last shall be first and the first shall be last, in interest and devotion; but the harness which enables one to pull his share of life's load should never be taken off."

The Sibbald System.

I have published a whole lot of criticism of the Sibbald plan of preventing swarming and controlling increase. Some think it isn't new, that it has been tried and discarded, others think it is similar to plans already published (and it is in some respects), and others who have tried plans somewhat similar have found them desirable. This method has certainly got to run the gauntlet, and, if it can't stand the criticisms, if it is valueless for the purpose for which it is intended, the sooner it is known the better. The same is true if it proves valuable in different locations and under varying conditions.

If I understand Mr. Sibbald aright, it is not so much intended as a method for artificiul increase, as it is to overcome the swarming fever, after which the two divisions are to be united. If we desire increase, *know* that we want it, and are going to have it, there are probably better methods of making the division, but to get rid of the swarming fever, and have the forces again united in about four days, is the prime object of the plan. Mr. E. R. Root, in his criticism of the plan, evidently overlooked this point of the length of time that the two divisions are to be kept separate. He speaks of keeping them apart ten days. If he will read carefully he will see that Mr. Sibbald speaks of making the union in "three or four days."

My advice is still what it has been all of the time. Don't be prejudiced for or against the plan, but give it a trial upon a sufficiently large scale to make the experiment worth something. When through, let us know the results; that is what bee journals are for, to get at the truth of things and let bee-keepers know it.

The Abbott-Hutchinson-Sugar-Honey-Discussion.

I am going to waste a few more lines on this subject, then I think I shall be done. Mr. Abbott publishes, in his April issue, two articles that were first sent to me, and comments upon the fact that I declined to print them. It probably was not so intended, but it gives the impression that I am not willing to give both sides a hearing. The facts are, that these two articles were only a small portion of the articles and letters that were received on the subject; the majority protesting against a discussion of the subject. The truth of the matter is, there has never been a fair, square, honest discussion of the matter. For instance, Mr. Abbott said that Prof. Cook and Mr. Frank Cheshire did not agree that bees changed over cane sugar when they handled it. I showed him that they agreed perfectly, and gave page and verse where the matter could be found. Mr. Abbott ignores this point entirely; and I am through with the matter unless some of my opponents bring up some *arguments* on the subject.

One of Mr. Abbott's correspondents expresses his delight at the "stand that Mr. Abbott has taken." I don't know as there is anything praiseworthy in this "stand." It is simply

in accordance with the popular belief. To take a stand in *opposition* to popular belies is what requires courage.

Mr. Abbott also thinks it "funny" that the National Association should elect as Secretary a man holding the views I do upon the subject. There is nothing so very strange about this, as nearly everything the National has done in the last three years has been regarded by Mr. Abbott as "funny."

An Easy, Novel Method of Treating Foul Brood.

It would seem as though nothing new could be said on the subject of treating foul brood, but when at the Chicago and Northwestern convention last fall, Mr. W. H. H. Stewart, of Emerson, Ill , described to me a plan of which I had never heard. Nearly all methods include the allowing of all healthy brood to hatch, and the final removal of all hatched bees from the diseased combs. In Mr. Stewart's plan, advantage is taken of the fact that when a bee flies naturally, and undisturbed, from a foul broody colony, it carries with it no traces of disease, and would not injure a healthy colony, should it enter the colony. Closing up the entrance of an infected colony, boring a hole in front of the hive, and putting on a bee escape—thus forcing the returning bees to enter a nearby hive containing the queen and a comb of healthy brood, is an old, and well-tried, plan of utilizing this idea, but Mr. Stewart's plan is simply that of giving the colony a new location, and allowing the returning bees to enter any colonies that they choose—probably those standing near the old stand. The diseased colony is moved in the evening, after the bees have stopped flying. Even if the moving does disturb the bees, or cause them to fill themselves with honey, none fly from the hive, and by morning, all has become quiet, and all bees leaving the hive will be empty and in a normal condition. When such bees return with a load, they go back to the old location, and join some neighboring colony. They are not lost. Other things being equal, a bee is worth as much in one colony as in another.

In eight or ten days, the hive is *again* moved to a new location, and left there several days, when it is picked up and carried into the shop. As the bees hatch out, and become old enough to fly, they leave the hive, fly to the window, go out through an escape, and probably join some colony in the apiary.

The combs eventually become free of bees or healthy brood, when they may be rendered into wax after extracting the honey. All this has been accomplished without any risky shaking off of the bees, or even so much as *the opening of a hive*. Can anything be more simple or easy of accomplishments.

Send Out Samples of Honey Accompanied With Handsome, Appropriate Literature.

"Stenog.," the proof reader of Gleanings, has a brother in New York City. He has been more or less interested in advertising, for many years. After reading about the Honey Producers' League, he wrote me a private letter. It was so full of good things, that I wrote and secured permission to print it. Here is the letter: —

New York, Apr. 24, 1905.

W. Z. Hutchinson,
Flint, Mich.

Dear Sir:

I have been much interested in the report in Gleanings of the gathering of honey men and the discussion as to the best means of getting rid of the surplus. It is a big question. You can hire a man to write advertisements and you can pay the Ladies' Home Journal $6 per line; but will this be enough ?

Personally, I have great faith in sampling. If some means could be found whereby every house could be presented with a cute little box containing, say an ounce of honey in the

comb, or extracted, and with it there could be given one of these leaflets, Food Value of Honey, unless something later and better has been gotten up, it would produce good results. I think a nicely illustrated pamphlet showing the whole process of an apiary would be a good thing and therein might be incorporated this leaflet. *Have the printing done in first-class style—the very best.*

Maybe that samples of candied honey would be good to pass around.

You see an inch in the Ladies' Home Journal will cost $84. Or ¼ page $1,000. There are scores of other ads. and the others tend to take the attention from the honey. But there is no getting away from a sample, and a nice pamphlet with recipes will be very apt to be saved. Then have the grocers talked to—they need it as much as the consumer. Show them that it will be money in their pockets to push honey. Need not dwell much on any other point with them, because all the average grocer wants is something that will sell well and pay him for his trouble. He don't care about its medical or healthful features.

I would of course do some general advertising; but in a judicious manner. $5,000 will not be a flea bite if you put it into general advertising. I live in East Orange, N. J., and in the township there are 25,000 people. Such communities are simply boarding-houses of the city of New York, and are well-to-do, and would be worth canvassing. N. Y. alone ought to use a large part of your surplus.

I have been in the advertising line for over 20 years, and my greatest grief is to see the amount of money that is *wasted* in advertising. I know that there is not a quarter as much honey eaten as there ought to be, and if the problem of increasing the consumption can be increased by a very small fraction per capita you are all right. Our people use 12 pounds of coffee per capita per year, and drink 18 gallons of beer. How can we induce them to use a little less of these and a little more honey?

Yours sincerely,
F. J. Root.

In giving me permission to use his letter, Mr. Root said:—

I will be glad if my poor efforts will assist in the slightest. I sent a note to Ernest in which I rather elaborated one point I spoke of to you, and that is in the get-up of a booklet. If you have never seen the one issued by the Franco-American Soup Co., let me know, and I'll send you one, if they are not all out. Expensive, to be sure; but it fairly makes your mouth water for their soups; and such a book on honey would be especially enticing. A "true to life" lithograph of a hot biscuit and honey; a field of buckwheat; a *bee* these things all count. I look at it from the point of trying to reach the *consumer*.

F. J. Root.

That's the kind of literature we want—that will fairly make the mouth water—for honey.

EXTRACTED DEPARTMENT.

WINTERING NUCLEI.

Some Interesting Experiments in Wintering Small Lots of Bees.

In an article under the heading of "The Swarthmore System," the British Bee Journal for March 2, 1905, Mr. J. H. Horn tells of his experience in wintering over extra queens in the Swarthmore mating-box. He says:—

I have this winter tried the experiment of wintering queens on the small Swarthmore frames, with about half a pint of bees to each queen. I had a look at them at about the first week in this month to see how these small lots were progressing, and found the queens alive, and egg-laying to all appearances, but thought it best not to lift the combs out. I might mention that these small lots have been exposed to all weathers in open ground.

Of course, English climate is not nearly so severe as ours, but Swarthmore writes me as follows:

I have successfuliy wintered queens the past winter in mating-boxes, and

they came through perfectly. Next season I shall put away a large number of queens in mating-boxes, and shall expect to have early queens to offer in competition with Southern breeders. We made up our mating-boxes late in the season, giving from two to three cupfuls of young bees to each box, as explained in the "Baby Nuclei," and just before settled cold weather came on we slipped in fat, full combs of good, well-sealed honey. On examination in February, the bees yet had honey to spare, but we gave them a full one, to make sure, removing the one having the least brood. We have now placed two of these small lots upon full combs to see if they will build up from this into full colonies.

If extra queens could be wintered over in nuclei containing even as much as a quart of bees, by placing them in the cellar, it would be a big thing for Northern queen rearers. I would be interested in knowing how successful men have been in wintering small lots of bees in the Northern States.

HERSHISER, NON-SWARMING PLAN.

In What Respect it Resembles the Sibbald Plan.

My good friend, O. L. Hershiser, of Buffalo, N. Y., writes me that his plan for preventing swarming is similar to that of the Sibbald plan, and that he published a description of it two years ago in the Rocky Mountain Bee Journal. In that Journal for March, 1903, I find an article by Mr. Hershiser in which he lays down certain principles that we must follow if swarming is to be controlled. Having done this, he proceeds to tell how *he* puts these principles into practice, which is as follows:—

The colony should be built up as rapidly and as strongly as possible by the use of an additional brood chamber, making the hive two stories high, as soon as the chamber, in which the colony has wintered, is crowded with bees and the spring weather conditions are favorable. At the approach of the first surplus honey season—usually white clover in the east and north and alfalfa in the west—and when the hive in both sections of the brood chamber is literally full of bees, and when, if the bees swarm naturally, the brood would not chill after the swarm had departed, remove the lower section or portion of the double brood chamber with the queen to another stand which should be along side of the old stand and contiguous to it. In fact, a stand large enough for two colonies to be placed upon, side by side, is the ideal arrangement for this pupose.

In place of the lower part of the brood chamber thus removed, substitute a brood chamber with clean frames of starters. Now all the field honey gathering bees will return to the old stand, leaving the brood chamber with the queen with sufficient young bees that have not flown, to take care of the brood; and this removed portion of the hive is in the best possible condition for rapid increase of bees, that is, rapidly hatching brood and not enough honey being gathered by this colony of young bees to keep the cells filled with honey as they hatch. Empty combs should be substituted for any combs that are full of honey, in order that the queen may be allowed to lay to her full capacity. The bees occupying the hive on the old stand will at once commence to rear queens and in due course of time a fine batch of queen cells will be found in the upper chamber, usually along the bottom bars of the frames, one cell only of which should be allowed to hatch and the queen to become fertile in the colony. By the time the young queen begins to lay, practically all the brood in this upper chamber on the old stand will have hatched. Now remove the colony with the old queen to a new stand, preferably about ten feet to the rear of the stand from which originally taken; shake the bees clean from the combs in the upper story of the colony on the old stand that has reared the young queen, in front of their hive; remove this upper story, with the frames shook clean of bees, and place it as an upper story to the hive with the old queen; place a super of sections on the hive in place of the upper story that has been removed from the hive on the old stand.

Now, we have a colony working for comb honey that has a young queen that IT HAS REARED the first requisite of non-swarming; it is a colony the brood chamber of which is supplied

with starters and contains little or no brood—a second requisite of non-swarming, and a colony that, to all intents and purposes, has swarmed—a third requisite of non-swarming. Besides, the hive with the super is in the best possible condition for a crop of fancy comb honey, providing the foregoing manipulations are performed at the proper time, and the hive with the old queen is in fair shape to gather a very satisfactory crop of extracted honey, provided the honey flow continues long enough for it to rear the worker bees, with no likelihood of swarming, because the season therefore will have passed before it attains to sufficient strength.

If no increase is desired, when the colony on the old stand is prepared for comb honey work, move the colony with the old queen on the opposite side of the colony on the old stand, with the entrance as near as possible thereto and facing in the same direction and in one week return it to its original position on the now opposite side of the hive, and repeat this moving to opposite side and back again weekly through the season to keep the colony with the young queen at all times well supplied with worker bees.

Thus we will have the work of two queens in the comb honey colony, instead of one, resulting in a greatly increased production of fancy honey. At the end of the season the old queens may be disposed of to the best advantage of the apiarist and the combs she has occupied may be extracted and stored for the following season's use.

Commenting upon the foregoing, the editor says the chief objection is that if we wait until the young queen is laying before putting a super on the comb honey colony, half the harvest is passed before the work of storing in the sections will be commenced.

The idea of putting the old queen and a part of the brood upon a new stand, and allowing the rearing of a new queen upon the old stand, is employed in the Sibbald, Miller and Hershiser plans, but that is about as far as I can trace the resemblances. Mr. Hershiser makes this division whether the colony is making preparations to swarm or not; Mr. Sibbald waits until queen cells have been started; while Dr. Miller waits until the colony has swarmed. As a rule, it is desirable that there be no swarming or division. If a colony will work right along, with no swarming fever, better results are secured, especially here in our short, northern seasons. I have known seasons when not more than half of my colonies swarmed. I have never had more than two-thirds of them swarm. So long as a colony is working along energetically, with no thoughts or swarming, we are the gainer to let it alone. Mr. Sibbald's plan, as well as Dr. Miller's, includes that advantage. Mr. Hershiser puts several combs of brood upon the old stand, rears a queen there, and then unites the two divisions, if no increase is desired. Mr. Sibbald leaves only one comb of brood upon the old stand, and that has queen cells upon it, and he does not keep the two divisions separate more than four or five days, simply long enough for the bees of the old colony to destroy the queen cells, and both divisions to get rid of the swarming fever, when they are again united.

DR. MILLER'S "PUT UP" PLAN.

In What Respect it Resembles the Sibbald Non-Swarming System.

Mr. A. E. Dixon, of Point Loma, California, in writing me says "The Sibbald method is practically the same as that described by Dr. Miller as the 'put up' plan. You will find it on page 163 of 'Forty Years Among the Bees.' The only difference is that the doctor, having clipped queens, waits until the swarm has issued and returned, before beginning the manipulations, while Mr. Sibbald heads off swarming by doing the work when he finds queen cells. I use practically the Miller 'put up' plan, except that I anticipate swarming, the same as Mr. Sibbald does."

Upon reading the foregoing, I looked up the Miller "put-up" plan, and it does resemble the Sibbald plan in some respects, notably that of putting the old queen and the brood upon a new stand until the queen cells are destroyed. Perhaps I better publish the plan, entire. Here it is:—

"When a swarm issues and returns, it is ready for treatment immediately; although usually it is put down in my memorandum of work to be done, and the time set for it may be the next day or any time within five days, just as suits my convenience, as the queen is caged at the time of swarming, and left in the care of the bees.

Within five days, I take off the super, and put most of the brood-combs into an empty hive. Indeed, I may take all the brood-combs, for I want in this hive all the combs the colony should have. In the hive left on the stand, I leave or put from one to three frames, generally two. These combs must be sure to have no queen cells, and may be most safely taken from a young or weak colony having no inclination to swarm. The two combs are put in one side of the hive, two or three dummies placed beside them, and the rest of the hive left vacant.

The question may be asked, "Will not the bees build comb in this vacant part of the hive?" No; at least they do not for me. Queenless colonies are little given to comb-building, and not at all inclined to make a fresh start in a new place.

If I did not do so at the time of taking out the frames, I now shake the bees off from about half the frames, not being particular to shake them off clean. These bees are of course shaken off into the hive on the stand. The supers are now put on the hive with its two or three frames of brood, the cover is put over the super, and the "put-up" hive filled with brood is placed over all.

A plenty of bees will be left to care for the brood, the queen will commence laying, all thought of swarming is given up, and every queen-cell torn down by the bees. In perhaps two days I take a peep to see if the queen is laying, for it sometimes happens that at the time when I "put up the queen" (as I call the operation I have just described), there is already a young queen just hatched, and then the old queen is pretty sure to be destroyed. In this latter case I may remove the young queen and give them a laying one, or I may let the young queen remain.

In ten days from the time the swarm issued—sometimes ten days from the time I "put up the queen"—I put down the queen. If, by chance, a young queen is in the upper hive, I do not like to put her down until she commences laying and her wing is clipped, for fear of her taking out a swarm. It seems a foolish operation for them to swarm when there is nothing in the hive from which a queen can be reared, but I have had it happen. The operation of putting down is very simple. I lift the hive off the top, place it on the ground, remove the supers, take the hive off the stand, place it on one side, put the hive containing the queen on the stand, and replace the supers.

You will see that this leaves the queen full chance to lay from the minute she is uncaged, and at the time of putting down there will be as much brood as if the queen had remained in her usual place. Most of the bees, of course, adhered to the lower hive when the queen was put up, but by the time she is put down quite a force has hatched out, and these have marked the upper hive as their location. Upon this being taken away, the bees, as they return from the field, will settle upon the cover, where their hive was, and form a cluster there; finally an explorer will crawl down to the entrance of the hive below, and a line of march in that direction has been established immediately. In a day or two they will go straight to the proper entrance.

I may add that the doctor either shakes the bees from the two combs that had been left on the old stand, and returns them to their old location, or to any nucleus that needs them, or else he gives them a new stand and allows them to build up into a colony.

The Sibbald plan has for its object that of forestalling swarming, in order that out-apiaries may be managed by periodical visits, while the Miller plan is simply a treatment to allow swarming, yet prevent increase, but the two plans do resemble each other in that the queen and brood are placed upon a new stand until the queen cells are destroyed. Sibbald puts one comb of brood with queen cells upon the old

stand, while the doctor is very careful not to have any queen cells left upon the old stand. Just why, I am not able to say, as the bees will at once proceed to construct queen cells. The doctor also shakes off half the bees into the hive on the old stand—Sibbald does no shaking. Sibbald keeps the two divisions separate only about four days, while the doctor keeps them separate from ten to fifteen days.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-6t 147-149 Cedar Lake Road

ITALIAN QUEENS

Untested, 50 cents each, tested, 75 cents each; Carniolan queens, same price. Bankston baby nuclens hive nailed ready for use, by mail, 35 cts.; nursery cage, by mail, 35 cts. Send for circular. Full instructions are sent showing how to operate the new Queen Rearing outfit.

C. B. BANKSTON,
Milano,
05-5-tf Milam, Co., Tex.

The Bee-Keepers Paradise.

300,000 Acres of Wild Land for sale, in the Famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars. "No trouble to answer letters."

Address:

J. E. MERRITT,
Gen'l Mgr.
Michigan Land Co.,
Manistee Michigan.

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with order of $10.00. Send for free list.

W. D. SOPER
R. D. 3 Jackson, Mich.

The Bee and Honey Co.

Wishes to sell you all of the bees and queens that you may need the coming season.

Catalog describing the six different races of bees that we breed, sent free. Get our prices before buying.

THE BEE AND HONEY CO.,
2-05-tf Beeville, Tex.

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

HONEY QUEENS

LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians,
Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

W. H. Laws, Beeville, Tex.

Big Thing, That,

Y Did you notice the **REVIEW COVER** has changed to the exact tint of Yellowzones! Shows what a good remedy can do. **Z**

They will **DO THINGS** for you.

Here's part of a letter to W. Z. Hutchinson from a subscriber

Bishop, Calif, Mar. 13, 1905.

Editor Review:—Your endorsement of **YZ** caused me to send for a box which proved highly satisfactory in a case of fever and chills. A man with stomach trouble, that I gave some to, says it was *the only medicine* that ever GOT THERE.

Do not be backward in recommending anything good. It is apppreciated.

Chas. Winter.

Here's what a sample did for a bee-keeper in Iowa.

April 3, 1905.

My wife is subject to very severe attacks of neuralgia. I used the sample last night. They relieved her and saved the expense of a Dr.

I have had at least a dozen different Drs. but seldom get *any relief* without the hypodermic needle. Find enclose $1.00 for full box.

The way to have them on hand is to get them right now.

A Box for $1.00 and they'll DO THINGS.

W. B. HOUSE, M. D., DeTour, Mich.

Good discounts on early orders. Complete stock of bee Supplies. Lewis Company's Goods at Factory Prices.

Muth Special Hive

The best Dovetailed Hive there is made. Send for Catalogue. We are always in the market to buy honey—submit price. The Fred W. Muth Co., 51 Walnut Street, Cincinnati, Ohio,

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.

M. H. Hunt & Son,
Bell Branch, Mich

Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

South Western
BEE-KEEPERS
SAVE MONEY

Get our prices on all Bee Keepers' Supplies before you buy. Send for Catalog We carry a full line, and will not be undersold.

HONEY CANS AND FOUNDATION —We represent the American Can Co. in Texas, as their sole and exclusive agents for honey cans. We also handle Dadant & Son's world-famous Comb Foundation, exclusivly. Get our prices before buying.

BEES AND QUEENS, in any quantity at all seasons of the year. Let us quote you.

HONEY AND BEESWAX bought and sold. We will buy your honey crop; and we especially want your beeswax at the highest market price.

H. H. HYDE
Successor to
THE GRAHAM-HYDE BEE CO.,
San Antonio, Texas.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
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Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson.
Untested queens, 75c; after June 15, 60c
Tested queens, $1.00; after June 15, 75c
Selected tested queens, $1.25; after June 15, $1.00.

Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

Pure Italian Queens.

The most beautiful, prolific, long tongued, energetic strain. Highest award at the St. Louis Exposition. Extra breeding queen, $2.00; six for $11.00; one dozen $20.00. Special prices on larger numbers. Send money by post. money order. If a queen arrives dead, return her with a statement signed by the postmaster, and another will be sent free. Anthony Biaggi, Pedevilla, near Bellinzona, Italian Switzerland.
5-05-tf

TAR HEEL BEAUTIES,

Finest honey gatherers out. After many years of weeding out poor stock, and retaining those of marked superiority, by actual test in the apiary; I can now fill orders for fine Italian Queens, untested at 75cts.; tested, $1.00

G. W McGUIRE,
05-5-3t Dark Ridge, N. C.

WANTED—Bees in shipping boxes on L. or Danz frames ready to ship now. State kind and price, safe arrival to be guaranteed.

J. B. MASON,
05-4.tf Mechanic Falls, Me.

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

Why he bought our

QUEENS.

I asked Mr. L. F. Weaver what he could say of our queens, and tell the truth, and here is his reply:

Shadeland, Ind., 2-8, 1905.

Friend Michael,

We received our first queens from you in 1903,—you will find that you sent me more queens in '904, and we expect to order a greater number in 1905. Why? Because your queens have met all our requirements, their workers being gentle, uniform in color and size, energetic hustlers and prosperous, in colony and store. We know not your method of rearing, and it makes no difference to us so long as we get such good and prolific queens

Yours respectfully,
L. F. WEAVER.

J. F. MICHAEL,

3-05-3t R. F. D. No. 1, Winchester, Ind.

The New Century Queen Rearing Co.

Has all queen cells built in full colonies and under the most favorable conditions, while the system of mating allows the sale of queens at unusually low prices; also the utmost promptness in shipment. No claim is made that these queens are superior to all others, but they are certainly as good as can be reared; while for promptness of service and fairness of dealing they cannot be excelled

The following varieties are bred, and mated in different localities: Three-banded, and Golden Italians, and Carniolans. Prices for either variety are as follows: One tested queen, $1.00; six for $5.00; one untested queen, 75 cts., five for $3.75; ten for $6.00; fifteen for $8.25. Prices on nuclei and full colonies given upon application.

Safe arrival guaranteed. Send for discriptive circular.

NEW CENTURY QUEEN REARING CO.
3-05-tf Berclair, Texas.

Get Acquainted with the "LEWIS FAMILY."

E. T. Abbott, St. Joseph, Mo.
Wis. Lumber Co , Fairbault, Minn.
Dadant & Sons,, Hamilton, Ill.
C. M. Scott & Co., Indianapolis, Ind.
Fred W. Muth Co., Cincinnati, O.
Norris & Anspach, Kenton, O.
A. G. Woodman, Grand Rapids, Mich.
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hansen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co. San Antonio, Texas., 438, Houston St.
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa,
Colorado Honey Producers Association, Denver, Colo.
Fruit Growers' Ass'n., Grand Junction, Colo.
Arkansas Valley Honey Producers, Association, Rocky Ford, Colo.
R. C Aikin, Loveland, Colo.
Paul Bachert, Acton, Calif.
Chas H. Lilly & Co., Seattle, Wash.
Fred Foulger & Sons, Ogden, Utah.
A. Coppin, Wenona, Ill.
California, Lumber & Milling Co , San Francisco, California.
C. B. Stevens & Co., Havana, Cuba.
E. H. Taylor, Welwyn Herts, Eng.

It is scattered all over the world and any one of the above will be glad to sell you Lewis Goods. The finest on the market.

G. B. LEWIS CO., Manufacturers of Bee-Keepers Supplies. Watertown, Wis., U. S. A

Make Your Own Hives.

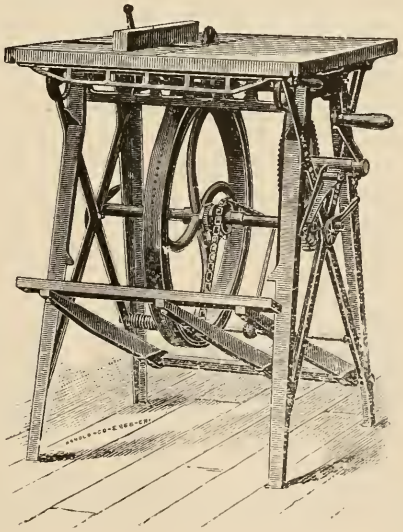
Bee - Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,
384 Ruby St.,
Rockford, Ills.

4 01 19t



QUALITY.

NOT HOW CHEAP BUT HOW GOOD

QUALITY RATHER THAN QUANTITY

Our Customers Proclaim Their Satisfaction.

Flint, Mich., Apr. 17, '05.

Friend Putnam:—

Yours saying that you would send the sections in a few days is here. Thank you.

Ever since nailing up those hives, I have felt like writing and thanking you for the excellent material and workmanship. The lumber is practically clear lumber, and the workmanship simply perfect—everything smooth and accurate. If every shipment that you send out is like this, you will eventually have more business than you can look after.

Yours Truly,
W. Z. HUTCHINSON.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

My new **FOREMAN** in the bee-hive work has arrived. That he held various positions in the factory of the A. I. Root Co., for 9 years and now comes to me with their recommendations should prove a sufficient guarantee of the work we are now turning out.

THE RURAL BEE KEEPER

Upon request I will mail at least one copy of my publication, the "Rural Bee-Keeper" to you, and will ask you to tell me what you think of it. I do not pretend to know all about bees but I have made them a study for over 20 years, and the people who write articles for my paper, are all practical men and women of long experience. We can't tell you all we know in one issue—or in one year. Perhaps the issue you will receive will not touch upon the subjects that interest you. But we have a question department, and every month we answer such questions as our readers ask us, and we try to make each issue valuable on one or more topics. The April Number will be of interest to you, because it tells all about a movement on the part of organized Bee-Keepers to improve the demand and the price obtainable for honey. We have been telling you how to produce honey, now we are going to help you get a fair price for your honey. During the first year, our price for the "Rural Bee-Keeper" was 50 cents per year. We enlarged with Vol. 2, No. 1, and will hereafter charge $1.00 per year

CLUBBED WITH REVIEW—BOTH FOR $1.50

Augusta, Wis., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

Enclosed please find money order for another year's subscription to your splendid paper "The Rural Bee-Keeper:" I take several other bee papers but the "Rural Bee-Keeper" is second to none. Every issue is improving, and the bee-keepers of Wisconsin can feel justly proud of such an excellent paper. Every issue has been worth more than a year's subscription to me.

Wishing you the best of success with the "Rural Bee-Keeper" and don't forget to put me down as a life long subscriber. Hoping you will have a prosperous year I am,

Yours Truly,
E. H. HANSELMAN.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations

The fol owing rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, det ched at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

KANSAS CITY—The honey market is overstocked, and consumption light. Beeswax is firm. We quote as follows: Fancy white, $2.50 per case of 24 sections; No. 1 white $2.25 per case of 24 sections; fancy amber $2.00 per case of 24 sections; white, extracted 6½c; amber 6c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
Mch. 31, 1905. 423 Walnut St, Kansas City, Mo

CINCINNATI—There is little, if any, improvement in the honey market here since our last quotation. We hope to render a more encouraging report soon

We quote amber extracted in barrels and cans at 5½ to 6½c. White clover at 7 to 8c; fancy white comb honey at 12 and 13c: beeswax 28c.

THE FRED W. MUTH CO.
Mch. 10-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—Fancy comb honey sells very well at 12 to 13c, but very slowly at more than that. other grades are dull, and require pushing to move at quotations. We quote as follows: Fancy white 12 to 13c; No. 1 white, 10 to 12c; fancy amber 9 to 10c; No. 1 amber 8 to 9c; fancy dark 8 to 9 c; No. 1 dark, 7 to 8c; white extracted, 4 to 6c; beeswax 28 to 30c.

BATTERSON & CO.,
Mar. 30 1905. Buffalo. N. Y.

CHICAGO—There has been somewhat of an increase in the number of sales during the past four weeks, yet the volume has not been large, while prices are if anything lower than in January, especially on other grades than white clover. Fancy grades of white comb, bring 12½ to 13c; No. 1, 12c, with some off in color, 8 to 10c; extracted white 6 to 7c, amber 5½ to 6½c, the price being governed by quality, flavor and package. Beeswax if clean and good color 30c per lb.

R. A. BURNETT & CO.,
Mch. 8, 1905. 199 So. Water St.

KANSAS CITY—Market is fairly ative, but $1.50 per case is about all dealers want to pay. Large retail dealers buy direct, and sell to consumers. We quote as follows: White $1.75 per per case; white extracted 5½ to 6½c; amber, 4½ to 5c; dark, 4½; beeswax 28c.

C. C. CLEMONS & CO.,
March 30, 1905 Kansas City, Mo.

CHICAGO—No material change from our quotations in last issue except that we have moved, during the past month, a good deal of Colorado Comb Honey, and are almost entirely cleaned up on Wisconsin stock.

If producers still have honey to ship, we advise letting it come forward.

Demand for strained honey limited, and supply equal to demand. We quote as follows: Fancy white, 13c; No. 1 white 11½ to 12½c; white, extracted 6½ to 7c; amber 6 to 6½c; bees wax 28 to 30c

S. T. FISH & CO.,
189 South Water St.
March 7, 1905 Chicago, Ill.

NEW YORK—The market is very quiet especially on comb honey; and cannot encourage shipping at this time. We quote as follows: Fancy white 13c; No. 1 white 12c; fancy amber 11c; No. 1 amber, 10c; fancy dark 9c; white, extracted 6½c; amber 5½ to 6c; dark 5c; beeswax 29c to 30c.

HILDRETH & SEGELKEN,
82-86 Murray St,
March 31, 1905. New York.

TOLEDO—The demand on comb honey is very limited, and the prices are as follows: Fancy white comb, in non-drip shipping cases 12½c to 13c; No. 1, 11½c to 12c, with no demand for amber or dark honey. White clover, extracted in barrels, 6 to 6½c; amber 5 to 5½c; beeswax 28 to 30c.

GRIGGS BROTHERS,
March 30-'05 Toledo, Ohio.

ITALIAN QUEENS.

Fine, No thern-bred; originated from best long-tongued, "RED CLOVER" breeders in United States; work on red-clover; bred in full colonies, for business, under swarming influence; noted for their excellent honey gathering, wintering qualities, and gentleness.

Untested, $1.00; six, $5.00; Tested, $2.00; six, $10.00; Select Tested, $3 00; Extra Select Tested, $4 50. After July 1st, Untested, 75c; six, $4.00; Tested, $1 50; six, $8:00. Satisfaction guaranteed.

Write for full descriptive circular.

ISAAC F. MILLER,
5-05-3t R. F. D. No. 2, Brookville, Pa.

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

2-'05-tf

PROMPTNESS.

At this season of the year the bee-keepers need supplies. It is important. In the Northern States it will soon be swarming time and the honey flow. We have reduced, for the bee-keeper, the time between the mailing of the order and the receipt of the goods. With ten branches and hundreds of agents in all the principal bee and railroad centers, Root's Goods are in easy reach of every bee-keeper with the least expense in freight charges and time in transit. With full stocks of goods and trained helpers your order has the best possible attention. Don't delay another day in placing your order.



A B C OF BEE CULTURE

100th Thousand

The bee-keeper who fails to have a copy of the A B C of Bee Culture in his library is failing to live up to his opportunities, in keeping posted on bee culture.. The price is no obstacle for it will more than pay for itself in saving expensive mistakes and it is worth twice what is asked for it. Written in encyclopaedic style which makes it an index by itself so that any subject can be instantly found. If you have been keeping bees all your life the book is a storehouse from which you can gather much help. If you are a beginner it is simply invaluable. The book is printed on the best paper and profusely illustrated. Over 500 double column pages. Price, $1.20 postpaid.

SECTIONS.

Our sections are the leaders. Having an investment of thousands of dollars in special automatic machinery we are able to turn out a product that for quality, finish, workmanship and accuracy cannot be excelled. The sections are polished in a double surface sanding machine, and the result is uniform quality and the same absolute thickness from end to end. Our sections are made from the choicest clear basswood lumber free from defects. Full stock in all our branches and agencies. For prompt shipment try Roots.

THE A. I. ROOT CO., Medina, Ohio

BRANCHES:

Chicago, Ill., 144 East Erie Street
Philadelphia, Pa , 10 Vine Street
New York City, N. Y., 44 Vasey Street
Syracuse, N. Y., 1635 W. Genesee Street
Mechanic Falls, Maine.

BRANCHES:

St. Paul, Minn., 1024 Mississippi Street.
San Antonio, Texas, 1322 So Flores. St.
Washington, D.C., 1100 Maryland, av., S W
Havana, Cuba, Obrapia 14.
Kingston, Jamaica, 115 Water Lane

JUNE, 1905.



Flint, Michigan, $1.00 a Year.

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 209

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Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, June 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(1.00)	1.75
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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Long-Tongue Red Clover

Strain of Italians—the best all round bees on earth. Prices of queens are as follows:

One untested queen, 75 cts.; six for $4.25; one dozen, $8.00.

One select, untested, $1.00; six for $5.00; one dozen, $9.00.

One tested queen, $1.00; six for $6.00 one dozen, $11.50.

One select, tested queen, $1.50; six for $8.50; one dozen, $16.00.

Breeders, from $3.00 to $7.00, according to points scored.

The Victor-Knolle Apiary Co.,

6-05-tf HONDO, TEXAS.

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat - bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side - walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

THE SOLUTION OF THE BEE LITERATURE PROBLEM

Is never solved until it is solved right, and it is never solved until you are a subscriber for the **Western Bee Journal.** A new corps of writers have been secured for this paper, and what they will write will be new to you.

Subscribe to-day—**$1.00 a year.**

THE WESTERN BEE JOURNAL
P. F. ADELSBACH,
Editor,
KINGSBURY, CALIFORNIA

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

STANDARD

Poultry AND... Bee Supplies

The best of everything for the poultry and bee-keeper.

Freight Rates from TOLEDO are the Lowest.

BIG DISCOUNTS FOR EARLY ORDERS

Our 60-page Catalog is ready. Send for it. It's free.

GRIGGS BROS.
521 Griggs Block
Toledo, Ohio.

NO. 2 SECTIONS.

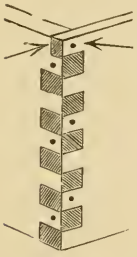
The quality of our No. 2 sections is equal to the average run of No 1 sections. There is less breakage in our No. 2 sections then you would expect to find in the No. 1 sections.

One of our customers writes us that out of 1500 shipped him by us, not one broke.

We are making Bee Supplies of quality, and sell at nearly 25 per cent. less than any other house. We guarantee you absolute satisfaction and make right what's wrong. Write us today for sample order and prices on all kinds of supplies.

DOLL'S BEE SUPPLY MFG. CO.,

Power Bldg. Minneapolis, Minn.



The Wood Bee Hive and Box Company, Lansing, Mich.,

make the only lock-corner hive that stands the sun and weather.

Examine the Cut;

See what the arrows point to.

Wax made into the finest foundation for cash, or on shares. Yes, we have those old, long-tongues in our queens yet, which means honey from red clover. Imported and home bred stock. All kinds of supplies. Postal gets circular. 6-05-tf

INCREASE is a handsome little book telling how to form new colonies without breaking stocks. A simple, sure, satisfactory plan. 25c.

BABY NUCLEI tells how to mate many queens from sections with a mere handful of bees. 42 pages, 20 pictures. Plain, cheap, simple. 50c.

QUEENS and QUEEN REARING OUTFITS FOR SALE Golden-all-over and Caucasian Queens. Circulars Free.

E. L. PRATT, Swarthmore, Penn.

Texas Queens.

From The Cotton Belt Apiaries. Queens, from May 1st to Nov. 1st: One untested, 75 cents; 6 for $4.00, 12 for $7.50, 24 for $12.00, 50 for $23.50, 100 or 500 for $45.00 per hundred. Tested Queens, $1.00 each; breeders, the very best, $3 00 each. straight 5-band breeders $5.00 each.

Send for circular and price list which gives full information. Don't wait; place your orders early. Queens ready to go May 1st.

DENTON & RIBBLE,

4-05-1t **Roxton, Tex.**

WHEN YOU SEE THE YELLOW COVER

YZ

THINK OF YELLOWZONES

White Poplar

Four-piece sections for $2.70 to $3.00 a thousand. Write for circular and price-list of other supplies. 4-05-3t

W. H. NORTON, Skowhegan, Me.

Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Single queen, $1.00; six for $5.00; one dozen for $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

Nuclei for Spring-Delivery

ITALIAN QUEENS.

Either Golden or "Red Clover," before July at the following prices:

	1	6	12
Untested	$ 1 00	$ 5 00	$ 9 00
Warranted tested	1 25	7 00	13 00
Tested	1 50		
Select Tested	2 00		
Breeders from $5 up	1	6	12
2-frame nucleus (no queen)	$2 50	$14 00	$25 00

When Queens are wanted with Nuclei add price of any Queen wanted.

BATAVIA, ILL., Aug. 21, 1901

Mr. J. D. Blocher—

Dear Sir: I thought I would let you know as to the results from the nuclei sent me. They were placed in ten-frame hives, and are now in fine condition. From one I removed 24 pounds of honey, and had to give six of them more room, as they were hanging out. They have more than reached my expecta tions.

Yours Resp., E. K. MERIDITH

Do not send personal checks unless you send 10c extra for collection.

D. J. BLOCHER, Pearl City, Ills.

Page & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1905 Catalogue and Illustrated Price Dist—free for the asking.

"DADANT'S FOUNDATION"

IT EXCELS.

We Guarantee Satisfaction.

BEE-SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

A. G. Woodman, Grand Rapids,
Agents for Michigan.

DADANT & SONS, Hamilton, Ill.

Bees and Queens

Have you tried my queens? They are as good as money can buy; they are daughters of imported mothers; and no pains have been spared to mate them purely. When you send me an order I fill it promptly and guarantee perfect satisfaction. I have the three-banded Italians, goldens, Cyprians, Carniolans, Holy Lands and Albinos.

Untested queens, of either race, 7 cts. each; tested, $1.50; breeders, $3.00. Special prices on lots of a dozen or more. Two-frame nuclei a specialty.

B. H. STANLEY,
7-04-tf Beeville, Texas.

BEE-SUPPLIES.

Lewis' Goods at Factory Prices.

Best shipping point in the United States. Special inducements on bee-hives. 88 page Catalog—good information for all bee-keepers—free. Ask about our free pocket mirror.

C. M. SCOTT & CO.,
1002 E. Washington St.
3-05-5t INDIANAPOLIS, IND



Flora McIntyre.

Grand daughter of R. Wilkins, and daughter of J. F. McIntyre, she inherits the ability to manage a large apiary.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, JUNE 15, 1905. NO. 6.

Keeping Bees in Large Numbers In Southern California.

BY J. F. M'INTYRE.

WHEN a bee-keeper's family, or his ambition, gets too large for one apiary to support, the question that troubles him most is whether he shall establish out-apiaries, or engage in some other business which he can take care of at home. The number of colonies that can be kept in the home-apiary depends entirely upon the location, and is one of the most difficult things to determine. In good years you will think that a much larger number would have done just as well as the number you have; but in poor years all the honey in the location will be used up in brood rearing, and you will wish the bees had been scattered in out-apiaries.

When the Sespe apiary reached 600 colonies, I started an out-apiary, and have had one or two out-apiaries most of the time since; and it is my opinion that a man cannot run out-apiaries and be as happy as he was when one apiary, one wife, and two or three babies, were all he had.

I have tried renting locations, but do not like it, and now own the land on which my three apiaries are located; 400 colonies in the home-apiary in Sespe canon; 200 colonies in Piru canon; and 200 colonies in Holser canon, four miles from Piru. The two out-apiaries are 14 and 16 miles from Sespe apiary, and the Sespe apiary is 26 miles from our home in Ventura; making 42 miles, in about a straight line, from home to the farthest apiary.

HORSES THE MOST SATISFACTORY METHOD OF TRAVEL TO OUT-APIARIES.

I have tried every method of travel, except a flying machine. The bicycle

is no good to carry supplies; and out-apiaries are like armies in the field—they need a constant stream of supplies. A good horse and a light delivery wagon, is the most economical and reliable of anything I have tried. Last season I tried a "Ford" automobile, and thoroughly enjoyed getting over the roads at the rate of 25 miles per hour, but it had its drawbacks. The first cost of the machines is too great at present, but time may change that. Then it is not built to carry supplies, and sometimes annoys you very much by refusing to go when you are most anxious to get to your destination; rubber tires are also an expensive nuisance.

AVOID AN OCCUPIED FIELD.

In selecting locations it is necessary to avoid fields already occupied. I have seen more failures from not observing this rule, than from all others put together.

The question of help is one of the most serious drawbacks to the out-apiary business.

AN UNUSUALLY EFFICIENT LADY BEE-KEEPER.

Last season I spent much of my time at the out-apiaries, with the hired help, while my oldest daughter, Flora, ran the Sespe apiary with some help from the younger sisters, and a hired man to cart the honey into the honey house, and take it from the hives. She uncapped and extracted 16 tons of honey, and ran 100 nuclei for queen rearing. As an encouragement, she was allowed to keep all the money from sales of queens. One out-apiary, representing an investment of $1,500 in land, building, bees and fixtures, made $1,400 worth of honey; still I cannot say that I enjoy running out-apiaries. I keep some one at each apiary during the first half of the swarming season; then "shake" the balance to wind it up quickly. We run our apiaries for extracted honey, because we are so far from market that comb honey would be smashed in crossing the continent.

We have a complete outfit at each apiary, even down to honey knives; in fact, each out-apiary is almost an exact duplicate of what I had when I married and started house-keeping.

RUNNING EXTRACTORS BY POWER.

The honey extractor at Sespe is run by a Pelton water motor, but there is no water above the out-apiaries, and I am thinking seriously of trying a motor-cycle engine cooled with a small blower, to run the extractors at the out apiaries; carrying it from one apiary to the other.

The greatest obstacle is in the proper handling of swarms by hired help, but we are overcoming this by shaking swarms to a great extent.

ETERNAL VIGILANCE IS THE PRICE OF SUCCESS.

Constant, personal attention is the price ot success; I have known several cases where two weeks of neglect at a time when bees are starving in the spring, caused the loss of hundreds of colonies. Neglect of swarms will cause the loss of a honey crop. Neglect a case of foul brood and your apiary is ruined. Neglect to extract at the proper time, and the brood-chamber becomes clogged with honey, and the crop shortened. Whenever I have bought the bees of an unsuccessful bee-keeper, I have invariably found *poor stock* and plenty of drone comb in the brood-chambers; so I regard good stock and good worker combs as the first requisite to success. A good location is soon overstocked; then the man with the best bees, and system of management, and the most persistent care, will survive, while his shiftless neighbors go to the wall.

VENTURA, Calif., Dec. 15, 1904.

Three Men Caring for 1,200 Colonies of Bees.

BY IRVING KINYON.

EDITOR REVIEW, on page 155 of the Review for 1904 you ask me to tell your readers how Mr. Elwood managed 10 apiaries for comb honey, with the help of another man and myself. Well, I will tell you what we did and how we did it. I began work for Mr. Elwood March first, 1892, and my first job was to go to the planing mill and get 1200 new supers. The whole 1200 went into an ordinary two-horse sleigh box, without being tied on; so you will see they were not a heavy or a bulky affair. They cost 13 cents each and held 27 sections. These supers were duplicates of all the supers Mr. Elwood had. This is one of the good points about Mr. Elwood's system; he has only one size and style of hive, super, and section, so everything is interchangable.

Mr. Olcott Casler, of Deck, N. Y., came to work on March 7, and, together, we nailed up 1200 new supers and put together 60,000 four-piece, dovetailed sections. This, with setting the bees out of the cellar, preparsmoker fuel, and such things as would be needed later in the season, kept us busy until about the middle of April.

VENTILATED BOTTOM BOARDS.

The latter part of March we began taking the bees out of the cellar. We used a pair of two-horse, farm-bobs, with the box removed, drawing 28 colonies at a load. We took out from four to six loads each morning, working until the bees in the cellar began to be too much excited from the light admitted, when the cellar was closed until towards evening, when from four to six more loads were taken out. The bottom board of each hive had an opening in the center, 6 x 12 inches in size, which could be opened or closed by a slide. It could be opened full size for cellar wintering and for summer it could be instantly adjusted to give any desired size of entrance from, so small that only one bee could pass at a time to ½ inch or 2 inches, or ½ inch by 12 inches or an extrance 12 inches long by any width up to 6 inches, or it could be closed entirely, which we did when drawing the bees to and from the cellar; so we had no trouble with the horses being bothered by the bees. After the horses were put in the barn we went along and moved the slides so the bees could fly. This bottom board also embodies the Pettit idea of drawing the returning field bees to the outer part of the super.

We took out 1252 colonies all from one cellar. One yard was drawn away as soon as they were out, and the rest were drawn away between the 25th of April and the first of June.

LOCATING OUT YARDS.

Besides the home-yard, there were nine out-yards, which were from three to ten miles distant from home. Most of the yards were located in pastures. Such locations have several advantages; first, the stock keeps the grass down, second the bees are less liable to trouble the owner of the farm, and third, the rent is less than it would be for tilled land.

WOOD FOR SMOKER FUEL.

For smoker fuel we sawed a maple tree into blocks about three inches long, and split them into pieces about the size of a man's finger. These pieces, when well dried, make the best of smoker-fuel; and wood, in my opin-

on, is the only fuel to use where you have surplus honey. I think it is less liable to give the honey a smoky taste.

After the bees were set out we looked them over and built them up. This, with drawing them away, clipping the queens, and putting in foundation, kept us busy until time to put on the sections.

One thing that I noticed, where there were so many bees together, was that a queenless colony would be crowded with bees allowed to enter from other colonies. Another thing, that any colony that sits on a knoll, or any that had its entrance facing west, so it would receive sunshine after the other entrances were in the shade, would draw large numbers of the bees that were flying at that time.

The hives were made of plain, straight pieces, gotten out at the planing mill at so much per thousand feet. Mr. Elwood has some of these hives that are yet servicable after 25 years' use. The brood frames were just plain, straight pieces with square joints. The roofs to the hives were of sheet iron which lasts longer and is much cheaper than tin. They cost less than 10c each at the present time. Sheet steel is about the same price but not as good for roofs. All metal roofs should be painted on the under side before putting on the hive.

THE CELLAR A PROTECTION TO HIVES AS WELL AS BEES.

Mr. Elwood thinks the protection to the hives in cellar wintering more than pays for the work of carrying them in and out of the cellar.

When we were ready to draw bees to the out-yards we distributed screens to as many hives as we were to take out at that time; then, beginning at the end of the row, we rolled a hive up side down which brings the entrance on top. The screens are bound with wood, and, if they have been used before, they will have a nail in each corner, which should be driven back until the point is even with the wood. Now push out the slide with the screen, and drive the nails in the corners. In this way no bee can escape.

Now with a bit-stock screw-driver put a 1¾ inch screw through each side of the bottom board which holds the bottom board and cover in place. This hive is now ready to set on the wagon.

These screens are made of ⅛ inch mesh galvanized wire cloth, with ½ x 1½ wooden strips around the edges on both sides with the nails driven through from one side and clinched on the other side. The back end-board of the wagon is fastened up with hooks, the hook end of which hangs down about 20 inches and is bent in the shape of a letter U at the end. This bend at the end of the long part of the hook comes just right to hook into the end-board and hold it level with the bottom of the wagon box.

This gives room for two more hives on each tier.

Another handy thing for moving bees are some irons ½ x 1½ x 10 inches, each rounded and bent at one end which makes it in the shape of a fish hook. These should be fastened on the under side of the wagon box along each edge. This makes a place to hook the ropes when tying on a load.

We found the 1055 queens to clip them, and by that time it was time to put on the sections. As many supers as we needed for the day were set on the wagon and covered with factory cloth blankets to keep out the dust; then when they were tied on they were ready for the out-yard. We carried a piece of factory cloth that had had two coats of paint oil, to cover the load in case of rain.

PREVENTING SWARMING BY DEQUEENING.

We discouraged swarming until we were ready to remove the queens. Then, if any were found preparing to

swarm, the queen was removed, also one frame of bees and brood. If the queen was an extra good one she was put in an empty hive with the frame of brood. The next six or seven colonies dequeened had their queens killed and one frame of brood from each taken to put with the queen that was saved, which made the increase.

The eggs that these queens would have laid if they had been left in the hive would hatch after the main honey flow.

After dequeening began, each yard was gone through and the cells removed just before they would hatch. Since there had been no eggs laid for several days when the cells were destroyed the second time, the bees had given up all idea of swarming, but were very anxious to have a queen. We now select a cell from some colony preparing to swarm, place it in a West cage and give it to the dequeened colony. This operation should be timed so the young queen will begin to lay at the time of the opening of the main harvest, and this colony will have its share of surplus honey, as this plan prevents the bees from dividing their working force at the beginning of the best harvest; and also gives them a vigorous young queen during the honey flow. In destroying these cells we *must be sure* that we don't skip even a small one, or it may upset the whole plan.

The *ease* and *rapidity* with which the combs could be examined was the most important point about Mr. Elwood's system. If we had tried to find the same number of queens and queen cells and do the other necessary work for that number of colonies in *some* of the hives, where you have to *pry* and *twist* and *pull* and *keep* prying and twisting and pulling to get the frames out—well we would get left, that's all, and would have to "keep *less* bees." With Mr. Elwood's hive there was no moving two or three frames to make room to take out the first one, nor any rolling the bees over and over in doing it, which is liable to injure the bees and queen. In fact, the first frame can be taken out with as *little time and trouble* as though it were the *only* frame in the hive. When a hive is opened to find the queen, there is no place where she can hide on the sides of the hive, so there is no time lost looking for her on the combs while she is on the side of the hive.

Mr. Elwood made a *business* of the bee business; not having even a pig or a hen to take his time when the bees needed it. The home-yard was worked exactly the same as the out yards.

TAKING OFF SURPLUS.

An out-yard should be located if possible on sloping ground, and should be approached from the upper side and the wagon left at the upper corner. At the close of the swarming season some of the honey was ready to be taken off, and this we did by blowing smoke in at the top until most of the bees had gone into the lower supers or hive, when such supers as were finished were lifted off and set on a board at the upper side of the yard. This super was covered with an empty super that had a piece of burlap tacked across it, and the light showing through the burlap would attract any stray bees taken with the honey. When more supers are added to the pile, if any bees are found in the empty super, they are shaken out. When this pile is 10 supers high, another pile is started farther down the yard, so when we have the honey all off it is in piles along one side of the yard. Later in the season when robbers were about we had some cloth tubes 8 or 10 feet long and large enough to slip over this pile of supers. One of these cloths can be slipped up as the pile is increased, which effectually prevents the bees getting at the honey. Every bee wagon should have a good brake, one that can

be locked at any desired tension and can also be adjusted to give tenson only when held in place. This will allow us to lead the wagon down grade and stop at any desired point. On arriving at the yard in the morning the wagon should be stopped on the upper corner, and the brake pushed up and locked, when the team can be unhooked and driven rapidly away before the bees find out you are there. When the honey is all off for the day, the pile that stands nearest to the wagon is set in, and the wagon led down to the next pile, and so on, until the lower side of the yard is reached, when the honey is covered and tied on. If two men are present one can work the brake while the other leads the wagon. If one is alone it will a require a rope from the operator to the brake-lever. If the bees are cross the wagon can be led some distance from the yard before hitching on.

PROTECTING THE TEAM FROM STINGS.

If the yard is level the honey is piled near the wagon as it is taken off, and when we were ready to hitch the team on they are brought as close as thought safe, and then covered within three inches of the ground and from the middle of the neck to the tail, with blankets made of factory cloth. We then take one of those cloth tubes we had around the piles of honey, which we we will call a head-slip, and, holding one end up, let it fall from the hand. It will now lie on the ground in folds and can be picked up and put over the horse's head like a collar. If you attempt to draw it over the horse's head while it is at full length, the horse may object.

Now when the head-slip is on, draw the front end down just *above* the horse's eyes, then put on a muzzle. Now the horses can be led towards the load and if the bees bother, the head slip can be instantly pulled down so it will hang a foot or two below the horse's nose. The muzzle will prevent the horse being frightened by drawing the cloth in his nose in breathing.

PREPARING HONEY FOR MARKET.

In the fall we had glass to wash and cut, honey to scrape and glass, the bees to draw home and prepare for winter, and the honey to draw to the depot, which was ten miles away.

The glass was washed in pieces 9 x 13, so we were really handling six pieces at once.

The honey was scraped and glassed by girls. Each one had a table about 2 x 3 feet to work on. The scraping tables have a piece four inches high on the back and right side and a piece of cloth tacked on the front side. This cloth is to be used as an apron and should have a strap to go around the neck. There should be a piece ¼ inch square and one foot long nailed on three inches from the cloth side, to lay the sections on when scraping. This table will keep the propolis off the floor and the operator.

The glassing tables had two strips ¼ x 1 inch by the length of the table nailed on 4½ inches apart. These hold the sections in place while being glassed. A piece of glass is fastened in the center of the table about four inches high and on this the points are put a few at a time.

The points are driven before the glass is put on, and afterwards are bent down with a stick. These girls used to scrape and put on the glass from 800 to 1,000 sections in a day.

A bench could be used instead of tables.

GETTING THE BEES HOME IN THE FALL.

Drawing the bees home was much the same as drawing them away. Some days a yard of over 100 colonies was drawn home. As the hives were unloaded at home they were set on platform scales that were on a wheelbarrow, and weighed and the weight marked on top of the hive, with oil crayon. This mark will sometimes

show a year later. These scales should be the kind with the platform hooked in place so they can be wheeled about and always be ready for use. As each hive was weighed it was set on another wheelbarrow and when this had 4 or 5 hives on, it was wheeled along and the hives distributed.

When the bees were drawn home nothing remained at the out-yards that belonged to Mr. Elwood except some blocks to set the hives on, and the shade boards.

We looked in at the bottom of each hive to see if they had bees enough for winter, and if they looked light they were examined from the top also. If they were found too light in bees they were united with some other colony in the same condition. If any were light in stores they were fed sugar syrup. The syrup was made in the morning and stored in large vats to cool. Then in the afternoon we filled a can that would hold about ½ a barrel. This we wheeled between the rows and drew into a pail. Then, with a dipper that held 5½ lbs., we gave each colony, that was marked short, the required amount.

There were 1320 colonies to put in the cellar, and they were scattered over four acres of ground, so you can see that any device where two men carry one hive into the cellar would hardly do. We used a team and bobs to draw them to the cellar door, and had two extra men to help us. This gave two men in the cellar, one to drive and one on each side of the bobs, to set the hives on. When we had 27 hives on we drove to the cellar door and slid them down a chute into the cellar. In this way we put in over 800 the first day with one team and one sleigh. When we had them all in there were 1320 all in one cellar, and there was room for just *one* more colony.

After the bees were in the cellar, I returned to Camillus, and as I think of the lessons learned at Starkville, I think myself fortunate to have spent a season with as practical a bee-keeper as P. H. Elwood.

CAMILLUS, N. Y., Dec. 30, 1904.

Editorial

To Gain his ends in life's fierce tussle, man's two best friends are hope and hustle.

California bee-keepers are sending out reports of some crops of honey in the State.

Wedding Bells rang May 15th. at Washington, D. C., for Mr. John M. Rankin and Miss Evelyn J. Willett. As most of the readers of the Review know, Mr. Rankin is in the Apiarian branch of the Department of Agriculture. Mr. Rankin has been sent to Chico, California, where he will have charge of an experiment apiary. The Review wishes him and his bride all happiness and prosperity.

Mr. Frank Benton, in charge of Apiculture at the U. S. Department of Agriculture, sailed from Philadelphia June 3d, on a journey to the Philippine Islands by way of Europe, Western Asia, and India, in search of new races of honey bees, particularly the giant bees of the East, *Megaphis dorsata* (*Apis dorsata*) of India, and *Megapis zonata* (*Apis zonata*) of the Philippines. He hopes also to obtain some honey-producing plants for introducing into this country.

During his absence the charge of the work at the Department devolves upon Dr. E. F. Phillips lately of the University of Pennsylvania, who has just been appointed as one of Mr. Benton's expert assistants.

Introducing Queens with tobacco smoke has been a great success with me this spring. I have introduced about 20 queens with it, with not one failure. Just at dusk I load up the smoker, and get it to going good, then put in about a pipeful of tobacco, give three or four puffs at the entrance, take off the cover, and drive down the bees with smoke, then allow the queen to run down between the combs, following her with a few more puffs of smoke. There is a query comes to me, might I not have been just as successful with smoke from planer shavings as with that from tobacco? I confess that I don't know, but I have my doubts.

After-swarming can be easily avoided by a plan followed by Mr. Walter Harmer of Manistee, Michigan. Early in the season he rears queens from choice stock, and starts nuclei, then, when a colony swarms, he hives it in the hive from which it issued, simply removing the brood, brushing off the bees, and giving the combs of brood to the nuclei that he has started, thus gradually building them up into full colonies. In this way all queens are reared from selected stock, the swarm on the old stand is re-inforced by the young bees brushed from the combs of brood, and all after-swarming is certainly avoided.

The Sibbald system seems to be misunderstood to a certain extent. Many seem to think it a method of forestalling swarming, the same as is the case with shook-swarming. It is true that a comb of bees, brood, and a queen cell are placed upon the old stand, and the old colony set to one side, but, as a rule, this change is made only temporarily, for about four days, until the queen cells have been destroyed in the old colony and the swarming fever has subsided, when the divided portions of the colony are again united. The American Bee-Keeper says "The kernel of the Sibbald method is in having the forced swarm raise a queen, leaving the old queen with the parent colony." I beg pardon Mr. Bee-Keeper, but I don't so understand it. As explained above, the kernel is in getting rid of the swarming fever in about four days, and then uniting the two portions. To be sure, as Mr. Sibbald says in his article, the division can be permanent if so desired, but this is not the leading feature of the system, as there are probably other more desirable methods of making a permanent division.

Ventilation and room to get off the combs are very important when full colonies are to be shut in their hives and moved in warm weather. In May I bought 12 very populous colonies of bees about 70 miles from home. I went after them myself, and covered the whole tops of the hives with wire cloth. In addition to this, there was an empty space upon each side of the brood nest, and the bees could crawl out and cluster in this space, yet one of the colonies smothered before it left the yard—and I am the editor of a bee journal, too. The trouble was that when the colonies were ready for shipment, they were carried indoors and left for the night. Fearing that it might be too cool to leave the brood nests uncovered over night, they were partly covered with quilts. In the morning one colony was dead and the honey running all over the floor. Oh! how hot the combs were. They would almost burn the hand when placed upon them. Then, on the way home, another colony came pretty near going. It seemed as though every bee stuck its

head up against the wire cloth until the air was all shut off, but they managed to pull through until they could be released. Look out when you move bees in hot weather.

The 11 colonies just mentioned, added to the nine I already had, enabled me to begin the season with 20 colonies. So far, I have increased them to 44. I shall be a bee-keeper again before I know it.

Good Stock and its value have been commented upon time and again, but it is doubtful if the majority of bee-keepers realize its importance. Many of my readers know of my selling a strain of bees, a few years ago, that I called Superior Stock. Well, I have received many testimonials in regard to their value, but never received one the equal of that given me by a bee-keeper living only five miles from here. He was on the train going to the Grand Rapids convention with Mr. Tyrrell and myself, when he mentioned the matter. Two years ago he bought one of these queens of me, reared eight young queens from her, and introduced them to as many colonies. Last year was a good honey year in these parts, and his average, from his whole apiary of 60 colonies, was 96 ¾ sections per colony, while his average yield from his nine colonies of the Superior Stock was 180 sections per colony! I know that this sounds almost sensational, but I have known this young man for years, and know him to be honest and truthful; besides he has no interest, whatever, in deceiving any one in the matter. He says that not only did the bees of the Superior Stock store more honey when the flow from basswood and clover was good, but, when it began to slacken, and the ordinary stock practically quit work, the Superior Stock kept right on grubbing away, even if they did not get honey so rapidly. These two points: Storing honey faster, and sticking to it even if the flow were not so good, enabled these bees to store nearly twice as much honey as was stored by the ordinnary stock. See what he might have gained if he had requeened his whole apiary with this stock!

This man's name is Leonard Griggs, and his post office address is Flint, Mich., R. F. D. No. 5. If you are a subscriber to the American Bee Journal, you can see his picture in the group that accompanied the report of the Michigan State Convention.

Self-Spacing Frames and Perfect Combs.

Bro. Root tells, in the last issue of Gleanings, of their buying bees this spring, and how nice and perfect the combs were in hives having self-spaced frames, and how "awful" they were in the old, loose, hanging frames. I don't doubt it a particle; but now let me tell *my* story. I, too, have bought bees this spring. One lot was on self-spaced frames, and the others on the loose, hanging frames, and my experience was exactly the opposite of that of Bro. Root's. The trouble was that the man who had the self-spacing frames, did not know that they ought to be crowded up together, and he left them a little distance apart, the same as the swinging frames are left. This placed the frames too far apart, and the bees went on and built their combs helter skelter, the same as they would in a box hive. The colonies on the hanging frames came from up-to-date, intelligent bee keepers, and each comb was as straight and perfect as a board. Perhaps this will not be considered a fair illustration. Perhaps it isn't, but it shows how difficult it is to make things "fool proof." Nearly everything must be used with intelligence; and, still further it seems to me that neither Bro. Root's experience, nor mine, in this particular instance, is much of an argument either for or against self-spaced frames. We should not be in-

fluenced in our choice of frames by the condition in which the combs may be found if we go out and buy bees of farmers or those not posted in bee culture. The real question is, what frame will allow us to handle bees in our apiaries with the least trouble and annoyance—handle them the quickest and easiest.

Who Discovered the "Baby" Nucleus System?

When Mr. W. H. Laws, something more than a year ago, described in the Review the "baby" nucleus system of securing the fertilization of queens, he said that he believed it was the first time that it had been publicly described, with the exception of an article that had appeared several months previous in the American Bee-keeper. Perhaps it would have been better if Mr. Laws had mentioned at the time that the system was the invention or discovery of Mr. C. B. Bankston. As he called attention to the article in which Mr. Bankston had described his methods, I felt that he had given sufficient credit, but Mr. Bankston, and Mr. Pharr, who was associated with Mr. Bankston, have both written and protested that the Laws article gave the impression that Mr. Laws was the inventor of the system. Now, while I think Mr. Laws had no intention whatever of robbing any one of deserved honor, I am more than willing to say that Mr. Bankston wrote to me and described his invention more than a year before the Laws article appeared, but I was unable to catch the real method and worth of the system, and so wrote Mr. Bankston. He referred me to Mr. Laws, who had been using it some time. I wrote Mr. Laws, but he wished to give it further trial before writing his experience for publication. Just about this time, Mr. E. L. Pratt of Swarthmore, Pennsylvania, was working out a "baby" nucleus system. The Review would not knowingly rob any man of any credit that is his due, and if it has given a wrong impression as to who was the inventor of the "baby" nucleus system, it is more than willing to correct it.

Keeping up the Strength of Shaken Swarms.

A natural swarm of bees is much weaker in numbers at the end of three weeks than when first hived, as no young bees have yet been hatched. When I was engaged in comb honey production, I hived a swarm on the old stand, setting the old colony to one side. This gave all of the flying field-bees to the swarm. A week later the old colony was moved to a new location, when all of the bees that had marked this location as their home, joined the swarm, giving it another boost. In this way the strength of swarm (where the sections were) was kept up. A shaken swarm might be strengthened in this same way, in fact, if no increase is desired, it is possible to keep on adding the newly hatched bees to the swarm either by moving the old hive from one side to the other, or by shaking the bees in front of the new hive. Mr. Stachelhausen tells in the American Bee Journal how he manages this matter with shaken swarms. He had practiced this method of getswarms, and was pleased with it except in this one respect, viz., that the swarms kept growing weaker and weaker during the three weeks following shaking, because no young bees were hatching out. The brood in the hives was daily increasing, requiring more workers to give up other labors for that of nursing brood, thus reducing the field-force. If the bees hatching in the old hive could only have been transferred to the swarm, all would have been well. Mr. Heddon's method of preventing after-swarming, which was the plan that I followed, as

mentioned above, gave Mr. Stachelhausen the idea how to secure this desirable transfer. Instead of moving the old hive from side to side of the old hive, Mr. Stachelhausen set the old hive by the side of the swarm, then, in ten days, most of the bees in the old hive were shaken off in front of the new hive, and the queen cells cut out in the old colony. Ten days later, all of the bees were shaken out from the old colony, and allowed to run in with the swarm. This keeps the whole force together, there is no swarming and no increase, and a gain of one set of brood combs.

Mr. Stachelhausen mentions one other plan for transferring the hatching bees to the swarm, and that is that of setting the parent hive on top of the swarm, and making a connection by means of a channel from the upper alighting hole down to the lower one, so that every bee that flies out from the upper-hive will, after returning, unite with the swarm.

Housing of Tools and Appliances at an Out-Apiary.

One of the first problems to confront the bee-keeper in the establishment of out-apiaries is the proper housing of the necessary implements and appliances, and Mr. M. P. Cady, of Wisconsin, sends me a description of a plan which combines very low cost with durability, portability, and efficiency. It is as follows:

Procure from a dry goods merchant a sufficient number of large, strong, dry goods boxes. The lumber should be seven-eighths of an inch thick, with the boards matched together. The cost will probably range from twenty-cents to one dollar a box.

Make covers to fit the boxes. The covers should have a cleat around the edges, which will fit over the sides of the boxes. The object of the cleats is to exclude the rain in driving storms. The covers should be made water proof, by covering with a good grade of roofing felt, or, better, with roofing tin. Secure each cover with a pair of stout strap hinges; provide each box with a strong hasp and a good padlock. Paint the boxes two coats with a good mineral paint, and your shelter is complete.

These boxes can be readily loaded upon the wagon, filled with supplies, and taken out to the out-yards, where they will afford a most satisfactory shelter for implements, boxes of foundation, crates of sections, etc. Should a change in the location of the of the apiary be advisable, their perfect portability makes these boxes most desirable apparatus. Of course, the boxes should be kept off the ground, and should be placed approximately level. Two pieces of scantling will afford a foundation for several, or they can be blocked up on stones or bricks.

The boxes are equally suitable for use in home-apiaries where the shelter supply is insufficent. A trial is the best demonstration of the merits of this plan.

Discussing Candidates for Offices in the National.

The time will soon be here when the Manager of the National will be calling for a postal card vote on the nomination of candidates for President, Vice President. Secretary, General Manager, and three Directors. Last year it seemed to be the consensus of opinion that in the bee journals was the place to discuss the merits of prospective candidates. The columns of the Review are open for such discussion. Of course, this discussion must be done decently and in order, no invidious comparisons made, and nothing said that will hurt any one's feelings. If a man believes that he is fitted for one of the offices, desires it, and is not too modest to say so, the columns of the Review are open to him.

If he has a friend that he believes to be competent, he is welcome to describe his capabilities.

A System of Comb Honey Production.

To the veterans there may be nothing new in what I am about to tell, but the beginner may get some hints. The system that I am about to describe is one that I followed for years, hence it will be practice instead of theory that will be given.

When the yield comes on from white clover, the brood nests become crowded, and the bees begin to whiten the upper edges of their combs with new wax, I put on the supers with bait sections saved over from the previous year. As soon as the first super is from one-half to two-thirds full, I raise it and put under it another super with sections full of foundation. When the super last added is about half completed, I raise both supers and put another next the hive. Usually, by the time the third super is half full, the top one is finished, or sufficiently so to be taken off. I would remove it even if one or two sections in each corner were not quite complete. These partly finished sections I would put into a super until I had one full, when I would give it back to the bees. With the Townsend method described in the Extracted Departments there would probably be no unfinished sections on the outside, because the outside combs would be extracting combs. This method of tiering up is continued until the end of the season. As the season draws to a close, I am careful about giving too much super-room. If I feel that a colony ought to have more room, I put another super on top. The bees will go on and complete the sections next the hive, just about the same as though the super had not been added on top, and, if the flow does continue, it will overflow into this upper super.

When a colony swarms it is hived in a contracted brood nest, upon the old stand, and the supers transferred from the old hive to the new. Only five Langstroth frames are used in the brood nest, or only one section of the Heddon hive, and starters only are used in the frames, a queen excluder keeping the queen out of the sections. If such severe contraction causes swarming out, I give a full sized brood nest for three or four days until the swarming fever has worn off, when the contraction is put in force. The old colony is placed by the side of the swarm for a week and then moved to a new location. Usually this prevents afterswarms, and helps to boom the colony where the sections are. If the swarm comes off early in the season, it is possible that the old colony will store some surplus, otherwise it becomes a most excellent colony for wintering, having abundance of good stores, and a young, vigorous queen.

At the end of the season I unite the colonies that have been contracted. In this way, we get one colony of increase from two colonies, get all of the white honey in the supers where it can be sold at the highest price. I would like to have my readers criticise this plan.

The Pay and Powers of Inspectors of Apiaries.

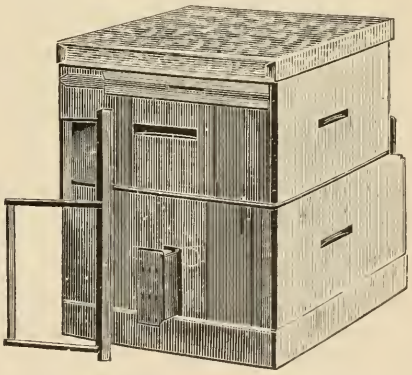
It is very seldom that I have occasion to disagree with the American Bee-Keeper, but I must take issue with it to a certain extent in its upholding of Governor Folk in his veto of Missouri's foul brood bill. The Governor objected to the powers to be conferred upon the Inspector, allowing him to destroy colonies if he deemed it best; he also hinted that $4.00 a day was pretty big pay for such work. I agree with the Bee-Keeper that "many of the men who are itching for the post of Inspector can not earn anywhere near $4.00 a day," and I also agree that some of the laws do not sufficiently safeguard the appointment of a competent man for

Inspector, but, if the Bee-Keeper thinks that $4.00 a day is too much pay for the services of a competent man, (perhaps it doesn't) then I must beg to differ. During the time when foul brood can be treated, a bee-keeper's time is worth that much in his apiary —in fact, he can easily lose many times that amount per day by neglecting his bees to look after foul brood. Both Mr. France and Mr. McEvoy have told me that it would have been money in their pockets if some other competent men had had their jobs, while they had stayed at home and looked after their bees. If some ward politician who does not know a bee from a mud wasp is to be appointed, then $4.00 a day, or any sum, for that matter, is too much, but, for a competent man, one capable of handling both the disease and the bee-keepers, one who can practically rid the State of the disease, $4.00 a day is none too much. There are many more pleasant occupations in which the pay is much larger. The appointment of an Inspector should be taken entirely out of the field of politics. In our State, the Inspector is appointed upon the recommendation of the State bee-keepers' association The leading bee-keepers of the State, those interested enough to belong to the State association, well-know who in their State is the most competent man for the position of Inspector, and it is in their power to have him appointed if he will accept the office.

And when a competent man is appointed, he must be given power to destroy bees, hives and combs when he finds it necessary. An inspector without such powers would be of no earthly good. It is only when clothed with such authority that he can accomplish anything. Inspectors are given authority to destroy herds of cattle when found diseased with tuberculosis, otherwise, no good could be accomplished, and an Inspector of apiaries must have similar powers, or he is of no use.

The Holtermann Queen Cell Detector.

It is well-known that bees very seldom build their queen cells upon the side of a smooth, perfect comb. Such cells usually appear upon the edges, bottom, or other irregularity of the combs; and Mr. R. F. Holtermann has taken advantage of this fact to secure the building of the cells in such a place that they may, by means of an opening in the hive, be easily and quickly seen. He cuts out a portion of the lower, back corner of one of the central combs, and puts in a feeder that may be filled from an opening in the back of the hive. When the season for stimulative feeding has passed—but I will let friend Holtermann tell his own story, copying it from the Canadian Bee Journal. Here is what he says:

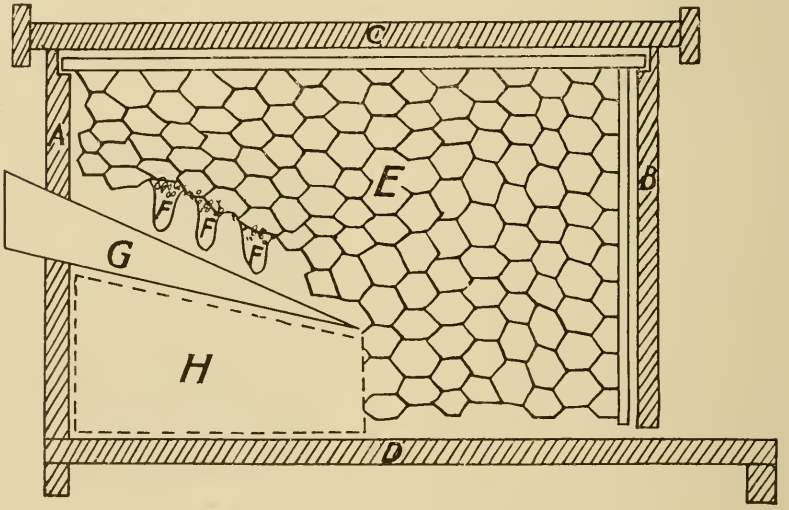


HOLTERMANN CELL DETECTOR—OUTSIDE VIEW.

When the season for stimulative feeding is passed we soon reach the swarming period. The expert is now busy, and wants short cuts to do his work, and to be saved the need of removing covers, heavy supers, queen-excluders and frames to look for queen-cells. The feeder is now removed, a wedge-shaped piece of wood put into the corner from which the feeder has been removed, the long side of the right angle lies on the floor-bottom and the shorter side just reaches the opening in the hive end. Through the opening is inserted a straight piece of wood, the height corresponding with the width

of the opening in the end of the hive, but the piece is cut on a bias. It rests on top of the angling piece of wood, resting on the hive bottom. These parts partially fit into the imperfect comb. When the bees wish to build queen cells by this method they have a convenient and inviting place right about the center of the brood chamber, and at a place, by means of the withdrawal of the straight piece, where in a moment the hive can be examined for cells. If the cells are there, they *may be* in other parts; if not there, they will not be found in other parts, as far as I know, unless the bees are superseding the queen. Let me say here, if other combs have holes in them half-way or so between the top and bottom bar, and near the center, this plan may fail and was first described, but the principle has not been affected.

The idea is to offer the bees a convenient place in the center of the hive, or near the center, for cell-building, and to so arrange that an examination of this point can be made without removing cover, supers, queen-excluders, brood frames, etc. At each examination, a little of the comb may be cut away just above the block that is removed for examination, thus giving added room, if needed, for the building of cells. When the piece is withdrawn, smoke should be blown into the opening, and an examination made. If there are cells, they cannot be examined without cutting them loose and drawing them out, which can best be done with a pair of long scissors.



HOLTERMANN CELL DETECTOR—SECTIONAL VIEW.

is not safe. Such should not be, and I have no remedy in this particular for those who do not do as I do, use full sheets of foundation or reject combs imperfect. Unless this is done the swarm detector is of no use.

In addition to the foregoing, friend Holtermann has sent me a letter which reads as follows:—

BRANTFORD, Ont,, May 4th, 1905.

Friend Hutchinson—

In reply to yours *re* the Queen Cell Detector, I send you a somewhat rough drawing which will illustrate the latest detailed construction of the device. It has undergone some changes since it

If the combs are full of holes, or have other imperfections, this plan will not be safe; but such combs are not to be found in hives if the best results are to be attained in bee-keeping.

As already stated, since first designing and testing the Cell Detector, I have made some changes, but my experience, and that of others, satisfies me that it is a practical success. It will save valuable time and and heavy work. It is patented, but I am willing to allow a few bee-keepers to test it, free of charge, this year, upon a few hives, but I want them to first arrange the matter with me.

R. F. HOLTERMANN.

The National Convention to Meet in San Antonio, Oct. 28--Nov, 1.

The Inter-National Fair holds its annual exhibition in San Antonio, Texas, Oct. 21st to Nov. 1st. When this fair is in progress, there are very low rates in force on the railroads out for 600 or 700 miles. Then there are Harvest excursions from the North on the 2nd and 4th Tuesdays of the month. The 4th Tuesday in October comes on the 24th. Considering these facts, it has been decided to select Saturday, October 28th, as bee-keepers' day at the fair. This will give ample time for members from the North to reach the city by starting the 24th. The regular sessions of the convention will begin Monday, October 30th, and continne three days.

The Fair Association has designated Saturday, Oct. 28th as bee-keepers' day, and will so advertise it, and especial pains will be taken to have on exhibition, hives, honey, wax, bees, and other apiarian products. At this fair will be on exhibition all of the agricultural and other products of the South and Mexico, and a visit to it will really be worth all the trip will cost, to give one an idea of the South and her products.

Then the Texas members propose to give a genuine Mexican supper which will be free to all outside members. There will be Mexican band and toast making—in short it might be called a banquet. On Sunday the members can attend church or go on a trolley ride around the city. Side-trips to Uvalde and other places are planned for all who wish to see the country after the convention is over, bee-keepers at the various honey centers having promised to take bee-keepers around free of charge. Texas is one of the greatest, if not *the* greatest, of honey producing States in the Union, and bee-keepers will now have an opportunity to see her wonderful resources, enjoy the hopitalities of her people, and profit by meeting in convention, all at very small cost.

The headquarters of the National Association will be at the Bexar Hotel (pronounced Baer, long sound of a), corner of Houston and Jefferson Sts., and rates are only $1.00 a day, and up. The convention will be held at Elks' Hall, 125 W. Commerce St., only two blocks from the Bexar Hotel.

Everything is now all arranged except the program, and I wish that every one would write and make suggestions in regard to topics and men to discuss them. If you have no special topic that you wished put into the program, you must surely have some question that you would like brought before the convention. Pour in the suggestions and queries, and let me get up one of the best programs that we have ever had.

W. Z. Hutchinson, Secretary.

EXTRACTED DEPARTMENT.

A COMBINED SYSTEM.

One in Which Both Comb and Extracted Honey are Produced in the Same Super.

When on the way home from our State convention last winter, Mr. E. D. Townsend explained to me a method of producing both comb and extracted honey in the same super. It had been described to him by Mr. O. H. Townsend, of Otsego, Mich. He made it perfectly clear to me how it would work, he showed up the advantages, but, for some reason I could not see how it was any ahead of the put-

ting on of a shallow super of extracting combs at the opening of the season. Once more, at the Northern Michigan convention, held at Central Lake, Mr. Townsend explained the system to the convention. Still, it seemed no better to me than putting on a shallow extracting super first. Now, after reading an article on the subject, that he contributes to Gleanings, I can begin to see what appear like advantages over simply using an extracting super first. Instead of calling attention to those points, I think I had better copy the article entire. Mr. Townsend says:—

I think I have something good for the readers of Gleanings. It did not originate with me, so you see if I should get enthusiastic before I am through, and paint the idea a little rosy, I can not be accused of lauding my own ideas. The credit belongs to that veteran beekeeper, Mr. O. H. Townsend, of Otsego, Mich., and was given to me between sessions of our Michigan State Convention at Grand Rapids, in February. You know E. R., that, in producing comb honey, if we give a super of brand-new sections with full sheets of foundation to a colony of bees at the approach of the honey season, likely enough they will sulk, or at the best do only a little work in the sections, and then swarm. To overcome partly this tendency in the bees not to go above, probably the majority use "bait sections." dirty things of the previous season's use. The honey in these dirty sections is always of an inferior quality. The argument that is usually presented in favor of their use is that they cause the bees to enter the sections so much more readily that really they do not cost the producer anything—that we get just as much or more honey, exclusive of the bait sections, so the bait sections really cost us nothing; but I think most of them eventually find their way on the market, though, and I am sure these bait sections do not help the market any, and are quite likely to cause less consumption of comb honey.

Perhaps the next most marked system is Mrs. Barber's plan of giving each colony a shallow super of drawn comb to start them above. After they are well started the drawn-comb super is removed and a super of clean new sections with full sheets of foundation is substitued. The bees being used to working above do not hesitate about going into the sections when substituted for the combs.

I now think the reader's mind is in the right channel, so it will be easy to convince him of the superiority of the Townsend plan, which I am about to describe.

THE ARRANGEMENT OF THE SUPER TO PRODUCE BOTH COMB AND EXTRACTED HONEY.

In arranging the super, use two super-springs to each super, one at each end; and when I speak of extracting-combs I mean those that are white and nice—no brood ever raised in them. The first super given each colony at the approach of the honey-flow is arranged with one shallow extracting comb at each side, and one in the center; the rest of the super is filled with clean sections, with full sheets of foundation; then when the super is partly filled with honey, the usual time for giving a second super, in fact, all the supers given after the first, are placed *under* the previous one, and are always arranged with *one comb at each outside of the super.*

Now, when we guess we shall need only one more super to hold the rest of the honey-flow, a super of all drawn combs is given *on top.*

Doesn't it begin to appear to you that there are great possibilities for this system in the future? Mr. Townsend claims for this system *much more comb honey,* and quite a quantity of the finest grade of extracted per colony.

The great point in favor of this system is the stimulus the extracting-combs give a colony, causing them to go above immediately, as soon as there is just a little honey in the field; thus the brood-nest is kept in almost the same condition that is secured in the production of extracted honey, this causing very much less swarming, and keeps the colony in that condition so essential to the best results in honey production. Then the bait-comb nuisance is done away with. This in itself is enough to make it worth while to adopt this new system.

Mr. Townsend uses a closed-end extracting-frame that fits his super. Any one can figure out the size and thickness of frame that will fit his super; but we prefer 1¾-inch spacing in our extracting operations, but of course there are no separators used in

them. If separators are used, as would be likely in a comb-honey super, 1⅞ or perhaps 2 inches from center to center would be nearer right. Likely the width of one's super would determine to quite an extent the spacing he would have to adopt. Make them fit your super. Isn't this a grand idea, this using an extracting-comb in the outside of each super, making this part of the super that is usually finished last the first that is commenced, with this condition secured. Is there any question in the mind of the experienced comb-honey producer that the rest of the super containing sections will be drawn out with astonishing rapidity, thus securing that ideal finish so much sought after, and heretofore secured in only a lavish honey-flow? I predict a great future for this system.

PRODUCING BOTH COMB AND EXTRACTED HONEY IN THE SAME FULL-DEPTH EXTRACTING UPPER STORY.

In producing extracted honey we use the ten-frame Langstroth hive, and use eight combs in a ten-frame upper story to extract from. Now, when starting a new yard, usually by buying most of the bees, our practice is, in furnishing them with combs to be used in their upper stories, to go to a yard having their upper stories all full of drawn combs, and take half their combs to the new yard. This leaves four drawn combs for each upper story at both yards. Now we put in the place of the combs removed four wired frames with full sheets of foundation. Some of you by this time are likely wondering what this has to do with raising comb honey in an extracting upper story. It is this. We find with the upper stories arranged with half-foundation and half-drawn combs we can prevent swarming to nearly the same extent as when full sets of combs are used. Taking advantage of this fact the next question arises, How many wide frames of sections each can we substitute for these four frames of foundation; and still prevent swarming? If we could sandwich in only three to each upper story, that would be 24 sections to each upper story.

Perhaps it would be well to close the season with a full set of combs, placed on top the same as I told you heretofore, with the single-depth super. The idea is, to get all our partly filled supers exclusively in the extracted form. The object is this: Every wide frame of sections we can get in this way is worth in the market about twice what it would be in the extracted form. It is a quicker sale, and the tendency of the times is that specialists, with their increasing number of yards that are at the present time starting up over the country, will in the future produce such large quantities in the extracted form that there is a possibility of a still wider margin in prices between the two articles unless some such arrangement as I have outlined above can be worked, so quite a per cent. can be taken in the comb-honey form, and still control swarming in the outyards.

In conclusion I want to add that I am an enthusiast over this idea that was brought forward at our convention at Grand Rapids last month, and during the next few years I shall test this system thoroughly in both my comb and extracted honey supers, and shall add all the wide frames of eight sections each to my extracting upper stories that I find I can, without causing swarming at our out-yards where no one is present to hive swarms that would be quite sure to come if we used too many sections in place of drawn combs.

THE HOFFMAN FRAME.

Also a Plea for Simplicity in Hive-Construction

I know a great deal of late has been written in regard to the Hoffman frame, but, as long as it remains in use, I feel that something, yes, *much*, ought to be said. I have often thought if this style of frame had been in general use, and then some one had invented the free, swinging, so-called, all-wood frame given us by the genius of Langstroth, what an *improvement* the latter would have been considered! In keeping with this line of thought, the Rural Bee-Keeper prints a most excellent article by that eminently practical bee-keeper, Mr. Stachelhausen. To the man who is free to choose between the

ordinary Langstroth and the Hoffman frame, this article should prove most profitable and interesting. Mr. Stachelhausen says:—

Years ago nearly all American bee-keepers, among them "Novice," now the senior member of the A. I. Root Co., were opposed to all kinds of self-spacing frames, especially closed ends and half closed end frames were estimated as a nuisance. The old Huber leaf hive, having closed end frames, was said to be no practical hive and Langstroth was praised as the inventor of the first practical frame-hive, because his frames could not be propolised together. Baron Von Berlepsch in Germany invented his hive at the same time as Langstroth, using a frame very similar to the Hoffman frame. For this reason it was said that the hive is not practical, because these frames are sometimes glued together in such a degree that rather the wood would break than the propolis. Loose hanging frames were used generally, but they have the disadvantage that accurate spacing takes some time and that they may slip from their proper place when the bee-keeper may not notice it. When a colony shall be moved even a short distance the frames must be fastened in some way. Otherwise it was not disputed that these frames were easiest to handle, when a proper bee space all around were secured. To overcome these disadvantages the simplest way is, to let the frame-ends rest in shallow notches on the rabbet. This was recommended many times and different devices of this kind were invented, but most bee-keepers were of the opinion that they could get along without it, and considered it a useless expense in the hive.

I have used such rabbets 24 or 25 years; they are made of tin strips, the notches are cut one-quarter inch deep, and by the help of a little machine the places where the frames rest are bent back to the tin strip, and hammered down where the spaces are not. These tin strips are nailed to the wooden rabbets. If a frame is lifted one-quarter inch only, it can be pushed away from the neighboring frame, and so enough space is secured to lift out any frame in the same way as with the loose hanging frame. I use such rabbets in my shallow stories which are 5⅜ inches high only; in them the frames are fixed sufficiently even for transportation from one apiary to another eight or ten miles over rough roads. If anybody uses frames nine inches high, or still higher, the spacing of the frames at the bottom bars may be not regular enough, and the frames may swing too much during transportation. For this reason a spacer of some kind may be necessary at this place. I do not use such frames any more and do not like them.

As I have explained, it was the general opinion that all self-spacing frames were not practical, when Heddon made public the invention of his divisible brood-chamber hive with closed end frames. He was the first one who went back to this old style frame, but he said expressly that his hive was constructed to be handled mostly by stories and not by frames. The A. I. Root Co. made, during one year, similar frames of the Langstroth size, but the next year they boomed the so-called Hoffman frame, which is nothing else than the Berlepsch frame, and as old as the Langstroth hive. For Berlepsch, a self-spacing frame was necessary in his side opening hive. The same frame was tried in the United States, but for hives with open tops they found no admirers. This frame was used by G. Dathe (1856, I think), who used nails with large heads for spacers. Since this time the Dathe frames, or similar ones, are used exclusively in Germany, and the Berlepsch frames abandoned.

When the Hoffman frame was accepted and patronized by the A. I. Root Co., every bee-keeper who raised the objection that such frames were glued together and difficult to handle received the answer from the editor, E. R. Root, that he certainly had not tried them sufficiently to speak in the case. Even this disadvantage of propolisation was reversed to an advantage, saying these frames could be handled by two or three without getting separated. I have tried such hives of the Langstroth size, and have still some in my home yard. If I have to handle such hives I am always very glad if I have lifted out the first frame or the division board without breaking it to pieces. To lift out two at once, or push four or five together from one side of the hive to the other, has always been out of question.

If we read the different bee journals we may think everybody is using these Hoffman frames, and in fact they are in fashion now, and all the younger

bee-keepers are using them, probably never having tried any other. In American Bee Journal, 1904, page 292, twenty-six old practical bee-keepers express their opinion and half of them are against any self-spacing frame; only three are in favor of the Hoffman frames. This should set the bee-keeping fraternity to thinking.

We will consider now what advantages are claimed for the Hoffman frame, and what disadvantages for frames spaced by notches in the rabbet. In Gleaning, 1903, page 443, Editor Root criticises in a foot-note such rabbet-spaced frames. He says: "* * * I have yet to know of a case where it is used very extensively by any bee-keeper who produces tons of honey. & * *"

Well, I used them many years, having other frames for experiments only, and I produce 10 to 20 tons of honey annually. In all these experiments I have not found a device which I would prefer.

"* * * A frame spacing rabbet in the hive does not permit of the movement of the frames from one side of the hive to the other without taking them out one by one. * * *"

How this movement of frames from one side of the hive to the other pans out in practice with the Hoffman frame I have mentioned already. The frames can be worked this way all right, if the hive is occupied by a nucleus and a few weeks only at this; if a full colony is working in the hive for several seasons, the thing does not work any more, exactly as it was said by the old bee-keepers, who had some experience with similar frames some years ago. Sorry to say, that the foul-brood inspectors of several States had to go through the same experience again. With a rabbet spaced frame it is by no means necessary to take out all the frames one by one, or a large part of them, even if spreading of the brood is used. We can spread the brood-frames without taking them out of the hive entirely and can do it in less time than we can get a move on the first Hoffman frame in the middle of a brood-nest. If this movement of the Hoffman frames in groups is so great an advantage in spreading the brood, why does the bee-keeper, who since many years recommended this operation and who certainly handles the frames for this purpose more than any other bee-keeper, G. M. Doolittle, say: "No fixed frames for me ?"

"* * * Still another serious objection is that frames of this type cannot be handled in groups of two, three and four. Modern bee-keeping demands that the brood-nest shall be manipulated in halves or quarters to a great extent. Any system that requires the separate manipulation of each frame must be considered a failure."

My frames can be handled in groups of two or three by placing a finger between two frames, as Doolitttle has described several times. If modern bee-keeping demands any particular thing, it is that the brood-nest shall be manipulated as little as possible, hive-stories should be manipulated and not frames. Any system that requires much handling of frames is a failure. We handle brood frames in making shook swarms. In this case every frame must be handled anyhow. If we look for foul brood in the hive, every frame must be handled. Spreading of the brood I estimate as a useless and dangerous manipulation, if the correct size of a hive and a proper management is adopted. For queen-rearing, too, I have to handle brood-frames; in all these cases Hoffman frames hinder manipulation considerably and have not a single advantage.

Nevertheless, the main objection to the Hoffman frame for a large bee-keeper is not so great if used in the brood-chamber only. The brood-frames are not handled very often, if it is necessary to handle them, and it takes more time to do it, we may bear it, at least, if the man does not know a better way. If it should be necessary I would get along even with combs in brood-chamber not movable at all. A foul-brood inspector may curse once in a while, but we do not make our hives for the inspector.

The main objection to fixed frames of the Hoffman style is, if they are used in the supers and extracted honey is produced, the wide side-bars, staples or nails are hindrances in uncapping the combs quickly; they catch into the wire netting of the extractor and in taking them out of the supers full of honey, and setting them back into the supers takes considerable more time than with my other frames. I have during many years used such Ideal supers with Hoffman frames, because I like to use standard implements. I was willing to use these supers exclusively, if they would prove as good as my old supers, but they did not. As often as such supers are brought from the apiary into the honey-

house to be extracted, my son-in-law who does the uncapping, is always in bad humor, and as soon as I get these frames in my fingers for extracting I am in the same fix. At present about 50 such supers are standing in my yard in piles for sale cheap.

Do you know what E. Whitcomb says? I will tell you: "I am a member of the church, and have a great desire to remain in good standing not only with the church but with God. With fixed frames I am afraid that I might be tempted to backslide. In speaking of grace, our Saviour, we fear, did not have in mind the perplexities of self-spacing frames."

The A. I. Root Co. has caused a great many progresses in bee-culture. has propagated many good implements; what they recommend and manufacture is adopted generally. By their influence we in the United States have a uniform hive and other standard goods, and this is a great advantage, if we consider the different frames and sizes of hives in other countries, but in adopting and recommending this frame they made a very big mistake that it will take many years to correct.

I know that good, practical bee-keepers (some of them) prefer the Hoffman frame, and the argument used is that hired help can't space them in a regular manner. The man who has not in his eye enough of mathematics, or adaptability enough to be taught, to space frames with sufficient exactness, is too low in the scale of intelligence to be given a place in the apiary. Accurate spacing of frames is a small problem compared with some that must be learned by the really helpful helper.

I am sincere in believing that the addition of projections on our brood frames, lock-joints (so-called dovetailing) to the corners of our hives, reversible bottom boards, or those with a "drop," covers with more than simple cleats to prevent warping, are simply steps in getting away from a simplicity that should be cherished as the apple of the eye.

I hope bee-keepers won't take offense at what I am about to say, but it does seem to me, sometimes, as though they were like a large family of very *good* children—do everything exactly as father tells them. If the leaders say a thing is good, the rank and file are bound to believe it. There seems to be a lack of stamina, of courage to condemn anything the leaders are booming If the opposition that has lately been developed against the Hoffman frame could have come out with the first attempt to popularize it, the frame would never have been adopted. It may be late now to oppose it, but, perhaps, those who are now starting in the business, may be saved from the mistake of its adoption.

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10,71 147-149 Cedar Lake Road

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W Z. HUTCHINSON, Flint, Mich.

HONEY QUEENS

LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians, Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

W. H. Laws, Beeville, Tex.

THERE'S NO SECTIONS
LIKE
LEWIS SECTIONS.

Manufactured by **G. B. LEWIS CO.,** Watertown, Wis., U. S. A.

And for sale by the following:

E. T. Abbott, St. Joseph, Mo.
Wis. Lumber Co., Fairbault, Minn.
Dadant & Sons., Hamilton, Ill.
C. M. Scott & Co., Indianapolis, Ind.
Fred W. Muth Co., Cincinnati, O.
Norris & Anspach, Kenton, O.
A. G. Woodman, Grand Rapids, Mich.
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hanssen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co., San Antonio, Texas., 438, Houston St.
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa.
Colorado Honey Producers Association, Denver, Colo.
Fruit Growers' Ass'n., Grand Junction, Colo.
Arkansas Valley Honey Producers, Association, Rocky Ford, Colo.
R. C Aikin, Loveland, Colo.
Paul Bachert, Acton, Calif.
Chas. H. Lilly & Co., Seattle, Wash.
Fred Foulger & Sons, Ogden, Utah.
A. Coppin, Wenona, Ill.
California, Lumber & Milling Co., San Francisco, California.
C. B. Stevens & Co., Havana, Cuba.
E. H. Taylor, Welwyn Herts, Eng.

Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

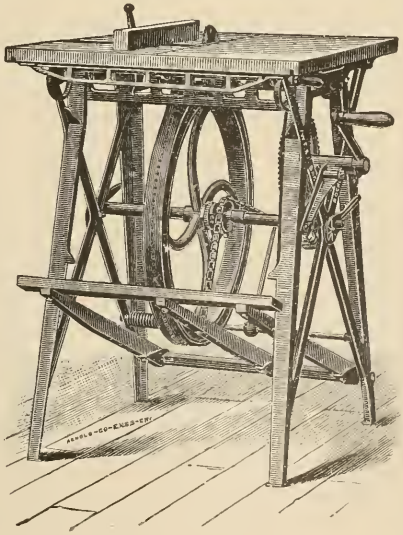
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

4-04-19t



PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson.
Untested queens, 75c; after June 15, 60c
Tested queens, $1.00; after June 15, 75c
Selected tested queens, $1.25; after June 15, $1.00.

Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

TAR HEEL BEAUTIES,

Finest honey gatherers out. After many years of weeding out poor stock, and retaining those of marked superiority, by actual test in the apiary; I can now fill orders for fine Italian Queens, untested at 75cts.; tested, $1.00

G. W. McGUIRE,
05-5-3t Dark Ridge, N. C.

Good Queens

and bees cost no more than poor ones. We furnish good ones on short notice. Untested, 75c each; $4.00 for 6; or $7.50 per dozen. Tested, $1.25 each. Breeders, $3.00.

Nuclei, 1-frame, with queen, $1.50; 2-frame, $2.00; 3-frame, $2.50. Absolute satisfaction or no deal. We breed six pure races. Price list describing them free. We are agents for the Dittmer comb foundation for this State and sell at Dittmer's prices. If you wish your wax worked into foundation for cash we will receive same and furnish you the foundation from our stock; which will save you much time and freight,

THE BEE AND HONEY CO.,
2-05-tf Beeville, Tex.

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

Why he bought our

QUEENS.

I asked Mr. L. F. Weaver what he could say of our queens, and tell the truth, and here is his reply:

Shadeland, Ind., 2-8, 1905.

Friend Michael,

We received our first queens from you in 1903,—you will find that you sent me more queens in 1904, and we expect to order a greater number in 1905. Why? Because your queens have met all our requirements, their workers being gentle, uniform in color and size, energetic hustlers and prosperous, in colony and store. We know not your method of rearing, and it makes no difference to us so long as we get such good and prolific queens.

Yours respectfully,
L. F. WEAVER.

J. F. MICHAEL,

3-05-3t R. F. D. No. 1, Winchester, Ind.

The New Century Queen Rearing Co.

Has all queen cells built in full colonies and under the most favorable conditions, while the system of mating allows the sale of queens at unusually low prices; also the utmost promptness in shipment. No claim is made that these queens are superior to all others, but they are certainly as good as can be reared; while for promptness of service and fairness of dealing they cannot be excelled

The following varieties are bred, and mated in different localities: Three-banded, and Golden Italians, and Carniolans. Prices for either variety are as follows: One tested queen, $1.00; six for $5.00; one untested queen, 75 cts., five for $3.75; ten for $6.00; fifteen for $8.25. Prices on nuclei and full colonies given upon application.

Safe arrival guaranteed. Send for descriptive circular.

NEW CENTURY QUEEN REARING CO.
3-05-tf Berclair, Texas.

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with order of $10.00. Send for free list.

W. D. SOPER

R. D. 3 Jackson, Mich.

ITALIAN QUEENS

Untested, 50 cents each, tested, 75 cents each; Carniolan queens, same price. Bankston baby nucleus hive nailed ready for use, by mail, 35 cts.; nursery cage, by mail, 35 cts. Send for circular. Full instructions are sent showing how to operate the new Queen Rearing outfit.

C. B. BANKSTON,
Milano,
05-5-tf Milam, Co., Tex.

The Bee-Keepers Paradise.

300,000 Acres of Wild Land for sale, in the Famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars. "No trouble to answer letters."

Address:

J. E. MERRITT,
Gen'l Mgr.
Michigan Land Co.,
Manistee Michigan.

Big Cut in Rates California and Back

Santa Fe
All the Way

F. T. Hendry,
Gen. Agt.,
151 Griswold St.
Detroit, Mich.

The Santa Fe will run first-class excursions, Chicago to California, on certain days, April to August.

Fare out and back about half the usual price. You may go on California Limited and visit GRAND CANON.

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

South Western
BEE-KEEPERS
SAVE MONEY

Get our prices on all Bee-Keepers' Supplies before you buy. Send for Catalog We carry a full line, and will not be undersold.

HONEY CANS AND FOUNDATION —We represent the American Can Co. in Texas, as their sole and exclusive agents for honey cans. We also handle Dadant & Son's world-famous Comb Foundation, exclusivly. Get our prices before buying.

BEES AND QUEENS, in any quantity at all seasons of the year. Let us quote you.

HONEY AND BEESWAX bought and sold. We will buy your honey crop; and we especially want your beeswax at the highest market price.

H. H. HYDE
Successor to
THE GRAHAM-HYDE BEE CO.,
San Antonio, Texas.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin

DO YOU USE THEM?

Y Did you notice the **REVIEW COVER** has changed to the exact tint of Yellowzones! Shows what a good remedy can do. **Z**

They will **DO THINGS** for you.

Here's part of a letter to W. Z. Hutchinson from a subscriber

Bishop, Calif., Mar. 13, 1905.

Editor Review:—Your endorsement of **YZ** caused me to send for a box which proved highly satisfactory in a case of fever and chills. A man with stomach trouble, that I gave some to, says it was *the only medicine* that ever GOT THERE.

Do not be backward in recommending anything good. It is apppreciated.

Chas. Winter.

Here's what a sample did for a bee-keeper in Iowa.

April 3, 1905.

My wife is subject to very severe attacks of neuralgia. I used the sample last night. They relieved her and saved the expense of a Dr.

I have had at least a dozen different Drs. but seldom get *any relief* without the hypodermic needle. Find enclose $1.00 for full box.

The way to have them on hand is to get them right now.

A Box for $1.00 and they'll DO THINGS.

W. B. HOUSE, M. D., DeTour, Mich.

Good discounts on early orders. Complete stock of bee Supplies. Lewis Company's Goods at Factory Prices.

Muth Special Hive

The best Dovetailed Hive there is made. Send for Catalogue. We are always in the market to buy honey—submit price. The Fred W. Muth Co., 51 Walnut Street, Cincinnati, Ohio,

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

QUALITY.

NOT HOW CHEAP BUT HOW GOOD — **QUALITY RATHER THAN QUANTITY**

Our Customers Proclaim Their Satisfaction.

Flint, Mich., Apr. 17, '05.

Friend Putnam:—

Yours saying that you would send the sections in a few days is here. Thank you.

Ever since nailing up those hives, I have felt like writing and thanking you for the excellent material and workmanship. The lumber is practically clear lumber, and the workmanship simply perfect—everything smooth and accurate. If every shipment that you send out is like this, you will eventually have more business than you can look after.

Yours Truly,
W. Z. HUTCHINSON.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

My new **FOREMAN** in the bee-hive work has arrived. That he held various positions in the factory of the A. I. Root Co., for 9 years and now comes to me with their recommendations should prove a sufficient guarantee of the work we are now turning out.

THE RURAL BEE KEEPER

Upon request I will mail at least one copy of my publication, the "Rural Bee-Keeper" to you, and will ask you to tell me what you think of it. I do not pretend to know all about bees but I have made them a study for over 20 years, and the people who write articles for my paper, are all practical men and women of long experience. We can't tell you all we know in one issue—or in one year. Perhaps the issue you will receive will not touch upon the subjects that interest you. But we have a question department, and every month we answer such questions as our readers ask us, and we try to make each issue valuable on one or more topics. The April Number will be of interest to you, because it tells all about a movement on the part of organized Bee-Keepers to improve the demand and the price obtainable for honey. We have been telling you how to produce honey, now we are going to help you get a fair price for your honey. During the first year, our price for the "Rural Bee-Keeper" was 50 cents per year. We enlarged with Vol. 2, No. 1, and will hereafter charge $1.00 per year

CLUBBED WITH REVIEW—BOTH FOR $1.50

Augusta, Wis., July 17, 1904.

W. H. Putnam,
River Falls, Wis.

Dear Sir:—

Enclosed please find money order for another year's subscription to your splendid paper "The Rural Bee-Keeper:" I take several other bee papers but the "Rural Bee-Keeper" is second to none. Every issue is improving, and the bee-keepers of Wisconsin can feel justly proud of such an excellent paper. Every issue has been worth more than a year's subscription to me.

Wishing you the best of success with the "Rural Bee-Keeper" and don't forget to put me down as a life long subscriber. Hoping you will have a prosperous year I am,

Yours Truly,
E. H. HANSELMAN.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

NEW YORK—The market is very quiet especially on comb honey; and cannot encourage shipping at this time We quote as follows: Fancy white 13c; No. 1 white 12c; fancy amber 11c; No. 1 amber, 10c; fancy dark 9c; white, extracted 6½c; amber 5½ to 6c; dark 5c; beeswax 29c to 30c.

HILDRETH & SEGELKEN,
82-86 Murray St,
March 31, 1905. New York.

CINCINNATI—There is only a fair demand for honey at the present time. We quote amber extracted in barrels at 4¾ to 6c, according to quality. White clover extracted at 6½ to 8c. The comb honey market is practically closed for the summer. Beeswax is wanted at 29c

THE FRED W. MUTH CO.
June 2-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—Our honey market remains very quiet. Strictly fancy is selling moderately at 12 to 13c, while other grades are weak and dull, at from 10 to 7c We notice no arrivals of new honey as yet, nor is there any demand for it. Very little business done here in extracted honey.

BATTERSON & CO.,
June 3, 1905. Buffalo. N. Y.

CHICAGO—The volume of sales are infinitesimal; hence prices are not considered to be important at this season. Comb, bring 12 to 12½c per lb. for best grades, off lots 7 to 10c; extracted 5 to 7c, according to what it is. Beeswax sells upon arrival at 30c per lb

R. A. BURNETT & CO.,
June 7, 1905. 199 So. Water St.

KANSAS CITY—The market is slow, with very little demand. Trade is waiting for new honey. We quote as follows: Fancy white $2.25 to $2 50 per case; No. 1 white, $2.25 per case; fancy amber $2 75 to $2 00 per case; No. 1 amber $1.75 to $2.00 per case; white extracted, 4½ to 6c; amber 4½ to 6c; beeswax 28c.

C C CLEMONS & CO.,
June 6, 1905. Kansas City, Mo.

CHICAGO—At this writing trade on comb honey is very quiet and in order to effect sales it is necessary to make concessions in price. There is a little more activity in extracted honey, but prices will have to be low in order to interest buyers. We have effected sale of one straight car of extracted honey this month. Good demand for beeswax at satisfactory prices. We quote as follows: Fancy white, 12 to 12½c; No. 1 white 11 to 12c, white, extracted 6 to 6½c; amber 5 to 6c; beeswax 25 to 29c, depending on quality.

S. T. FISH & CO.,
189 South Water St.
June 6, 1905. Chicago, Ill.

KANSAS CITY—The market is well cleaned up on comb honey. Extracted in light demand. Beeswax is in good demand. We quote as follows: Fancy white, 10c; No. 1 white, 9c; white, extracted 7c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
June 3, 1905 423 Walnut St, Kansas City, Mo

TOLEDO—The market on comb honey at this writing is practically dead. No demand for honey at this season of the year, as strawberries have taken its place. However we report an occasional sale at 12 and 14c. Beeswax is firm at 28 to 30c.

GRIGGS BROTHERS,
June 5-'05 Toledo, Ohio,

ITALIAN QUEENS.

Fine, No thern-bred; originated from best long-tongued, "RED CLOVER" breeders in United States; work on red-clover; bred in full colonies, for business, under swarming influence; noted for their excellent honey gathering, wintering qualities, and gentleness.

Untested, $1.00; six, $5.00; Tested, $2.00; six, $10.00; Select Tested, $3 00; Extra Select Tested, $4.50. After July 1st, Untested, 75c; six, $4.00; Tested, $1 50; six, $8:00. Satisfaction guaranteed.

Write for full descriptive circular.

ISAAC F. MILLER,
5-05-3t R. F. D. No. 2, Brookville, Pa

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.
2-'05-tf

Perfection in Extractors.

The long wished for practical, automatic extractor has at last been found. The Root Automatic solves the question completely. No complicated mechanism; it is simplicity itself. All orders for 4-frame Cowan or larger will be fitted with the Automatic device at the old price. Our extractors now are practically all steel construction. 4-frame or larger are fitted with ball bearings, which are completely above the honey. Cans are beautifully enameled and lettered.



Root's Automatic 8-frame Honey Extractor connected to run with a small Gasoline Engine.

Where a large amount of extracted honey is produced a power driven extractor will handle the crop much more economically than by hand power. Labor for extracting is expensive. Our special motor will run a Jumbo 250-pound, 8-frame, Automatic Extractor all day, stopping and starting the reel at will, running at any speed, with the consumption of only three quarts of gasoline. This makes the expense only one and one-half cents per hour. Prices and full description of these machines will be sent on application.

THE A. I. ROOT CO., Medina, Ohio

JULY, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 210

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, July 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1.00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(1 00)	1.75
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1.00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1.75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1.00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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President.

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C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates). and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now havea type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala....	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	205
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J. ...	130	W. Va....	178
Iowa..	800	N. H. ...	158	Wash....	122
				Wis.....	620

W. Z. HUTCHINSON, Flint, Mich.

THE SOLUTION OF THE BEE LITERATURE PROBLEM

Is never solved until it is solved right, and it is never solved until you are a subscriber for the **Western Bee Journal.** A new corps of writers have been secured for this paper, and what they will write will be new to you.

Subscribe to-day—**$1.00 a year.**

THE WESTERN BEE JOURNAL

P. F. ADELSBACH,

Editor,

KINGSBURY, CALIFORNIA

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired.* Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,

SPROUT BROOK, N. Y

QUEENS

We have secured the services of one of the best Queen specialists in the U. S. Over 30 years experience raising Queens. Our yard is stocked with select breeders from the best yards in America, and can send Queens by return mail.

Prices to Sept. 1, 1905.

Untested Queens	$ .75
Select Untested Queens	1.00
Tested Queens	1.50
Select Tested Queens	2.50

GRIGGS BROS.

521 Griggs Block

TOLEDO, - - OHIO.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

You Can Save One-Fourth on Sections

By buying from us The quality of our Bee Supplies is unchallenged. We use only the best materials in the Manufacture of our supplies. The advantages we have in location and the modern appliances for manufacturing same enable us to produce high-grade supplies at nearly 25 per cent. less than competing houses. We will give you the benefit of this 25 per cent. Don't take our word for it, but prove it by sending us a trial order.

Satisfaction guaranteed or money refunded. Careful attention given to instructions.

DOLL'S BEE SUPPLY MFG. CO.,

Power Bldg. Minneapolis, Minn.



The Wood Bee Hive and Box Company, Lansing, Mich.,

make the only lock-corner hive that stands the sun and weather.

Examine the Cut;

See what the arrows point to.

Wax made into the finest foundation for cash, or on shares. Yes, we have those old, long-tongues in our queens yet, which means honey from red clover. Imported and home bred stock. All kinds of supplies. Postal gets circular. 6-05-tf

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Finest honey gatherers out. After many years of weeding out poor stock, and retaining those of marked superiority, by actual test in the apiary; I can now fill orders for fine Italian Queens, untested at 75cts.; tested, $1.00

G. W. McGUIRE,
Dark Ridge, N. C.

5-05-3t

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Italian Queens!

Either Golden or Honey Queens after July 1.

Our **Goldens** will come up with any other Golden strain. Our **Honey-Queens** are what some breeders call "Red Clover Queens."

	1	6	12
Untested..	$ .75	$ 5.00	$ 7.00
Tested (or warranted tested)	1.25	7.00	13.00
Breeders	5.00	....	.....
2 frame Nuclei (no queen)..	2.00	11.00	22.00

When Queens are wanted with Nuclei add price of any queen wanted. We guarantee safe arrival of Queens and Nuclei. Our breeders may be returned after 30 days if satisfaction is not given. Cash must come with all orders.

D. J. BLOCHER, = Pearl City, Ill.

Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Untested, 75c each; six, $4.00; 1 doz., $7.50. Select Untested, $1.00 each; six, $5.00; 1 doz., $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

Pagé & Lyon

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New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1905 Catalogue and Illustrated Price Dist—free for the asking.

QUEENS! QUEENS!

Do you want good Queens? Send to me and get one of my Adel Strain of Italians They will do good work for you. Great hustlers for honey, very gentle and practically non-swarming. I have reared and shipped more Queen Bees in the last 40 years than any other dealer on earth. If your Apiary is diseased with pickled brood, black brood, or bee paralysis, I will present you with a formula that will quickly cure it. Queens $1.00 each.

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LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians,
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These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

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BUCKEYE STRAIN RED CLOVER, GOLDEN ITALIANS

By Return Mail. Safe Arrival Guaranteed.

PRICES.	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00
Select Breeders, each			$3.00
Two-frame Nucleus and Red Clover Queen			3.00

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The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor

VOL. XVIII. FLINT, MICHIGAN, JULY 15, 1905. NO. 7.

A Trip to Ohio and Down in Old Kentucky.

W. Z. HUTCHINSON.

THE headquarters of the Hamilton County, Ohio, Bee-Keepers' Association is at Cincinnati. When they held their May meeting at the Grand Hotel, I was present as their invited guest. Perhaps 40 members were present, and most of them were amateurs.

While in the city I was the guest of Mr. Fred W. Muth who is the President of the Hamilton Co. Bee-Keepers' Association, and manager of the Fred W. Muth Co., dealers in bees, honey and supplies. There are few persons, perhaps none, who have done more than Mr. Muth has in developing a wholesale trade in extracted honey. The day that I was at his place of business, the orders that came in, and the supplies and number of barrels of honey that were shipped out, were more than sufficient to convince one that this firm is doing a most thriving business. Mr. Muth is one of the kind of dealers that we ought to encourage. He does not handle honey on commission but buys it out and out, paying spot cash—not in 30 days, or 90 days, but the very day that the honey arrives a check goes out in payment for it.

I also called upon Mr. C. H. W. Weber, but, unfortunately, he was at one of his out-apiaries, and previously arranged engagements did not leave me time to go out and see him. His son told me that they were having a very good trade in supplies and bees, and I was very courteously shown the apiary on the roof of the store where there were some of the brightest colored Italians that it has been my fortune to see.

The next day after my arrival, Mr. Muth, Mr. J. C. Frohliger and myself, took a trip of about 50 miles into old Kentucky, and visited the queen rearing apiary of a man that I have long wished to meet—Mr. J. P. Moore, of Morgan—the man who furnishes the Superior Stock.

When we were present Mr. Moore had 226 nuclei in operation, and he has since written me that he now has 400. He has tried the "baby" nucleus system, and is not very enthusiastic over it. One objection being the liability of the nuclei being robbed when honey is scarce. The apiarist at Mr. Weber's also made the same objection. Mr. Moore also thinks that it is less work to run a queen rearing establishment, with permanent nuclei, after they are once established. It requires more bees, but Mr. Moore thinks the work is much less. He considers the Langstroth hive rather large for nuclei, and is trying a frame half the length of the Langstroth, and a little shallower. Four nuclei will be kept in one hive.

A PHOTOGRAPHIC FAILURE.

He follows the same plan that I did years ago, of having his nuclei up on "stilts," or benches, so as to avoid stooping in examining the nuclei. I intended to give my readers a near-by view of part of his apiary, but, for once in my life, I "fell down" as a photgrapher—it was a case of "forgetting." For a year or more I have been using what are called orthochromatic plates, those that are sensitive to other colors than the violet rays, thus getting truer color values in the photograph. When I started on this trip I was unable to get any plates of this kind, and had to take the ordinary plates. When all ready to make the exposure I noticed the beautiful clouds in the back ground, and thought I would put on the ray filter, a colored glass that strains out most of the violet rays, and gives the other colors a chance, so to speak, and thus get the clouds in the picture. Even with an orthochromatic plate, 15 times as long an exposure must be given when the ray filter is used, but, with an ordinary plate, 40 times as much must be given, as it practically shuts out the violet rays, which are the ones that do the work with an ordinary plate. This point had escaped my memory entirely, until I came to developing the plates when I found them hopelessly under timed. I spent an hour and a half coaxing one of them with a weak developer, but it was of no use—it was not there. Mr. Moore's apiary is spread out over considerable ground, and some one suggested that we go back on a hill and get a bird's eye view of it. When we reached the spot, I found that the elevation was not quite what it ought to be, so I climbed a tree, and with the help of the others, pulled the camera up after me. As I feared that I could not hold the camera still long enough to use the ray filter, I left it off, and, thus, by accident, as it were, I got *one* view of his establishment. The clouds were printed in from one of the under timed negatives—the exposure was long enough for the clouds. When Mr. Frohliger saw me "shinning" up that tree, pulling the camera after me, he said he was ready to believe all of these stories about the enthusiasm of amateur photographers.

INJURY TO TESTED QUEENS IN SHIPMENT.

Among the things mentioned by Mr. Moore, one worth repeating is the injury that comes to tested queens from shipping them, or, to be more exact, perhaps, from checking their egg-laying so suddenly by taking them from full colonies when they are at the height of their egg-laying. He says that a young queen, that has just commenced to lay, stands shipment much better, and usually proves to be of value as an egg-layer, after shipment, while a tested queen often turns out very poorly. He says that a tested queen ought to be shipped in a full colony, or, in a nucleus, to say the least. I have noticed the same thing myself. This year I have bought several tested queens of various breeders, and very few of them have turned out well. One layed worker-eggs for

awhile, and then turned drone-layer. Another layed a little while, and then turned up missing. None of them have proved good, prolific layers. Young queens, of this year's rearing, sent as soon as they had commenced laying, turned out all right. Still further, I bought nearly a dozen full colonies having tested queens at least one year old, and some are, probably, older, and these queens, never having been out of their hives, are splendid layers. As Mr. Moore says, a choice tested queen ought to be shipped in a full colony or a nucleus.

INTRODUCTION OF QUEENS.

Another thing that we talked about was the introduction of queens. I was quite enthusiastic over the tobacco smoke method. Mr. Moore had tried it, and it worked all right for awhile, then he had some failures. At that time I had had none, and I had been introducing queens to full colonies of hybrids at a time when no honey was coming in. The strange part of it is that I had not one failure until the honey flow came on with extreme heat, when I lost two queens out of a dozen. Another thing: there was a day or two at this time, (it was when the season opened up with a rush) that I could scarcely open a hive without the bees balling their own queen. The season opened so suddenly that it almost took the bees "off their feet." They acted almost as they do when robbing has commenced. At present I am having good success introducing a queen to a nucleus and then uniting the nucleus with a full colony. Mr. Moore says that he considers the plan of shaking bees into a ventilated box, and leaving them until they begin to "beg" for a queen, then giving them one in a cage from which they can liberate her by eating out the candy, as practically an infallible method. He says he would not hesitate to introduce in this way a queen that was worth $100.

FLINT, Mich., June 22, 1905.

How one man Cares for Thirteen Apiaries in Minnesota.

M. V. FACY.

HOW to handle bees in large numbers, and in various yards, with the least help and expense, and the greatest profit, is a question which has, during the last few years, forced itself prominently into the foreground.

SOME THINGS TO AVOID.

Before answering the above, I wish to admit that I do some things, mostly as a result of the urgent entreaties of friends, that I would not recommend my readers to do; and the first of those is that of allowing my apiaries to become too great in number. Six hundred colonies are about as many as I have handled at one time, yet my yards at times, have run up to about 13 in number; or, at least, double the number they should be; and I have seldom less than 10 under my control. These yards are divided into main yards, and those which I run to accommodate others. The latter are small lots of bees belonging to neighbors who may happen to be on roads I travel over in passing from one main yard to another, and if I didn't handle the bees on

shares, the owners would call upon me so frequently that it would amount to the same thing, but with *less pay*. My work is also slightly increased, because in the past I have bought and sold bees; selling bees in uniform hives, and buying in most any kind. Thus, in the last eight years, I have sold about a thousand dollars worth of bees, and have bought perhaps four hundred dollars worth.

In selecting my yards, I consider as among the essential things, convenience, place for wintering, location of yard, pasturage, and whether yards are so situated that I can reach each one from the last yard with the least possible delay in driving.

To begin, I will start with my first work in the spring, and run through the season in a general way until I finally return them to the cellar again, and forget that I have them until the next spring.

AN IMPORTANT POINT IN SETTING BEES OUT IN THE SPRING.

I am never in any hurry to put my bees out in the spring; usually I wait for the first flowers to appear before I start. I commence with the larger yards first, especially those so situated as to get the most early bloom. In carrying them out, I place the first colonies in as widely different parts of the yard as possible, and gradually fill in the vacant places. This I do mostly in order that the bees of the first hives may cool down after their first mad rush of flight before their near neighbors are placed on their stand and take theirs. In this way as the bees take their first flight and return, their own hive is the busy one, and they seldom fail to enter it. After the bees of a yard are all on their stands I run over them to equalize their stores. This will not take over half an hour for a yard of 75 colonies or more; as many hives need little or nothing done to them. This constitutes all the work at the first visit, so I pass on to the next yard. In about six days my bees are all out and all busy.

About two weeks after putting out my first lot of bees I go over them again to see if each colony has a laying queen; and this time I expect to leave each hive with plenty of stores to run it through the uncertainties of spring. If there is a shortage of honey in the yard, I feed the bees sugar syrup made by mixing the best granulated sugar with an equal weight of water.

According to my experience, it is doubtful economy to give bees syrup from cheap sugars at any time of the year, and poor honey is worse still. I feed them what they need as rapidly as possible.

After the bees have all passed their examination and have all the stores they need and are put in as good shape as possible, I do very little to them until it is necessary to put on second stories. I have been, with average hindrance from weather, four or five days doing the above work.

SPREADING OF BROOD UNPROFITABLE.

I am very careful, while doing this work, to expose the brood as little as possible and to leave the brood nest in its natural condition. Spreading brood is always a dangerous operation in our Northern climate with its continual tendancies to cool spells and backsets, until even late in the spring, and, besides, where brood is spread so that the bees can scarcely save it, the heat of the brood nest is so lowered as greatly to retard the development of the brood, so that, after all, the gain is only apparent.

During the dandelion season I again visit all my yards, and where ever I find colonies becoming crowded with bees I put on their second stories, which means a hive similar to the one they are in, and, of course, filled with combs. This time I really would have but little to do, as it is only a short matter to place the second stories

on, were it not that I do whatever work is possible to lighten the work of the busier season that is to follow, hence, I put in about a week in the round. From this time on, I aim to keep thoroughly in touch with my bees. Before the clover yield comes on, I make my round about every nine days, although, sometimes, I may be ten, and it takes me about three days to the round. To do this very little time is wasted upon one colony. Weights on covers, shade-boards, or anything necessitating extra work, is strictly avoided. I pass along the row of hives, generally commencing with the front row, glance at the conduct of the bees in their flight, then raise the cover and take a look, and, as a rule, I know *exactly* the condition and requirements of that colony without lifting a frame. In some cases they will need a second story of combs, others a *third*; or, possibly, they might be queenless, and, in case their actions indicate such a condition, I glance at their brood nest; and, if I find it to be the case, I either set them over another colony or set a weak colony over them. I have good success either way. In the above work, and in all following work, I handle frames as little as possible.

EXTRACTING BEFORE THE FLOW FROM CLOVER.

As soon as clover begins to yield, I extract all the honey from the hives, taking the yards in their order. In this extracting I throw out all the honey in the hive which may be ready, both above and below. In doing this I can, with two helpers, take the honey from 75 colonies, can it, and take it home in a day, and I have a nice choice clover honey for my next extracting—not light amber as you too often see clover honey, but almost water white.

AN EXTRACTING TEAM AND OUTFIT.

Up to this time I have done all the work alone, but now that the real heavy work comes on in taking and handling the honey, I have three men to the team, and, if the rush is heavy, two teams at work. As I have these men only in the actual rush of extracting, they are hired by the day. The outfit going with each team is extractor, two smokers, two honey knives, an uncapping can, a strainer can with dairy cloth for strainers, one two-horse wagon, a single buggy and plenty of empty cans, and here I would emphasize *plenty* of cans, as I have repeatedly had to send for more cans for the day's work.

As we arrive at the yard, each man has his place, and in ten minutes everything should be in full swing in the extracting house; and, in 15 or 20 minutes after we are through extracting, my honey and outfit are loaded up and we are started for the next yard. As we quite often cannot take all the honey home with us, we have to store the balance with the occupants of the farm.

NO USE FOR QUEEN EXCLUDERS.

As I use no queen excluders, the queen uses the second story to some extent, and often the third story. This is no detriment, as I extract those combs just as though there was no brood there, and that without any damage to brood. The use of queen excluders largely increases the tendancy to swarm. I extract from each yard in rotation, as often as they are ready, which is usually every 8 to 10 days in a good clover or basswood flow.

MAKING INCREASE.

As the honey season advances, the hives (mine are a little larger in capacity than a 10-frame Langstroth), though three stories high, become overcrowded with bees. I then take the story in which I find the queen, with the queen, and place it on the old stand, removing the other two stories with their bees to a new stand. All the field bees go back to the hive on

the old stand, over which I have placed a couple hives with sheets of foundation, or frames of empty combs, and the way they pile in the honey just does one good to see. I have always swarmed my bees artificially; the full time taken up for each swarm being about five minutes. While I generally follow a particular system, I do not always; but rather adapt the system to the conditions. In this way I may use half a dozen different ways in one day.

THE HIRED HELP PROBLEM.

I usually hire one man, whom I prefer to be at least 18 years old, for two and a half months in the summer, but I do not take him with me, except in the extracting season. I have additional help, by the day, only when the rush is the greatest, entailing a total wage bill charged against the bees each year (outside of my own labor) of about $70. I usually secure the same helpers year after year, as it takes a season or two for a green hand to become skilled in the work. This is especially so in the use of the honey knife, where a practiced hand will do nearly twice as much as a green one.

In the extracting house everything is so placed as to prevent any false unnecessary motion. My strainer can holds 15 gallons, and the strainer, covering the full top of it, accommodates something over three gallons and is used until it begins to clog. I find it needs a strainer of at least this size to strain the honey as fast as extracted.

The honey is run from the strainer can, from a large faucet, directly into the cans in which the honey is marketed.

PREPARATIONS FOR WINTER.

After the surplus season is over I have very little to do until the first heavy frost in September, when I go over my bees and crowd them back into one hive body. Often the hive will not hold them at first, but as the weather cools, they gradually manage to get inside. At this time of the year I find that the queen has often established herself in the second story, in which, also, is the principal store of honey, The bulk of the bee bread is generally in the lower hive; therefore, as I reject all the pollen possible for my winter colony, I select the second story in which to winter the bees and into this I shake all the bees from the other stories.

WHOLESALE CLEANING UP OF PARTLY FILLED COMBS.

I thus go over my entire yard, and then put out the empty bodies to be cleaned of their honey by the bees. If you have never tried this, you will, at first, begin to think you are in for a spell of robbing; however, before you have got through with your yard, you will feel at ease, for the bees soon quiet down to such an extent that they often take two or three days to finish up any patches of capped honey. It should be understood that I place out to be cleaned by the bees only such combs as may be unprofitable to handle in any other way; and, by giving them all the work to do *at once*, they make a clean job of it without damaging the combs. After reducing all the colonies to one body each, I ascertain their amount of stores by passing along and simply lifting each hive, then marking upon the back of it the amount it should be fed. In estimating this amount we must give the bees the benefit of any doubt as to quantity; and, after that, if we estimate that a hive needs 10 pounds of feed, we should place it at 15 pounds. As soon as I have gone over them in this way, I feed them, giving each hive all it needs at a single feeding. If a hive has to be fed all its stores, I feed in two operations.

In feeding my bees in this way for winter I take granulated cane sugar, in 100 pound sacks, to the yards, and mix in a barrel in the extracting house,

using 200 pounds of sugar and 14 gallons of water to a mixing. After stirring this well for about 10 minutes, I run out into pails, and feed it, using old comb, dry grass, or excelsior, as floats. For quick work I think excelsior is best. Towards evening, after removing the upper stories from the bees, I pack away all the combs which are already cleared of their honey, and leave the remainder so they will be protected from the weather, yet open to the bees.

I have no trouble in feeding up my bees and putting them in condition for winter, and also attending to my shipping trade, myself, without any outside help. I have shipping boxes made to run through this period, in the slack times of August, before my hired man leaves, which is at the close of August.

I commence putting my bees in their winter quarters towards the end of November.

PRESTON, Minn., Feb. 28, '05.

Building up 4,000 Colonies of Bees in Cuba.

G. E. WOODWARD.

IN the last four years I have established over twenty apiaries, varying in numbers from 200 to 525 colonies.

My home-apiary, that Mr. A. I. Root wrote up in Gleanings for 1903, page 294, cost $333.34. This included a honey house. I built this apiary up from 200, three-frame nuclei. The first year I took 34 barrels of honey, averaging about 100 gallons each. The second year I increased from 200 swarms to 370, sold $250 worth of 3-frame nuclei, and took 44 barrels of honey. Last year was the poorest season in 30 years, and the apiary did not come up to where it should.

My combs are all built from full sheets of foundation, the frames are all wired, and the hives all factory-made, 10-frame dove tailed hives, well painted with the best white zinc.

THE DANGER OF OVERSTOCKING GIVEN TOO MUCH WEIGHT.

I established out-apiaries about four to six miles apart. I wish to digress here just a little: There are many bee-keepers who go "up in the air" the moment some one says a word about keeping 300 or 400 colonies of bees at one place, so please permit me to say here that there is always more honey goes back into the earth than there is taken by the bees. So many think, whenever they fail to get a good crop of honey, that their location is overstocked, when the facts of the case are they did not have the proper strength of colonies, or else the honey was not in the field to get.

With 300 colonies in the home-apiary, the bee-keeper can easily start 200 three frame nuclei, and, from these, build an out-apiary up in fine shape for the coming season.

By all means secure just as good a queen as money will purchase; then rear your own queens. All success in bee culture centers at this one point. Always keep your eye open to the improvement of your bees. Do not breed

simply for color. I once bred my bees down so fine that the drones were blind and white-eyed.

SELECTING LOCATIONS FOR OUT-APIARIES.

An inexperienced man is not capable of selecting a good honey location; it requires an old experienced hand to select a good honey ranch. The man who knows his business will be riding along the road, when, all at once, he will say: "There is a fine location for an out-apiary." Why didn't you see see it just as well as he did? Because you were not in the location business. The very moment the old bee-keeper's eyes fell on that location, ever fiber in his being told him that there was the spot for an apiary. So, I would advise the beginner to go to some good bee-keeper and get his judgment on this subject.

After you have your location selected, go to the land owner and make the best arrangements with him that you can; after which live strictly up to them. I would advise you to make cash arrangements with him; do not be afraid to give him a little honey once in awhile. Do not rent for less than five years at a time, for you will find it quite expensive to move your apiary every year or two. Get close to good water, and just as near your shipping point as your location will permit.

HIVE-MAKING.

If you are a good up-to-date carpenter, and live close to hive lumber, then I say, by all means, make your own hives, but you must do your work very nice and accurate. Everything must fit just right, or you will be the loser. The best of white pine should be used for all outside work, and it must be well painted. I made a complete, true form, and every hive, frame and section goes into that form, and is nailed there, and when it comes out I know it is just right. One thing more on the hive question: Be sure, whatever you make or buy that you have the *standard*.

COMB HONEY PRODUCTION.

A great many produce extracted honey because they do not understand comb-honey production; and then there are others who would not be successful in comb-honey production because they are not neat enough; their sections would be stained, not well scraped, and the honey not rightly and properly graded. Their shipping cases would be in bad condition; their comb built sidewise, and then they wonder why they do not get just the same as the other fellow who puts his product on the market in fine, faultless shape. I have seen comb honey put on the market in all kinds of shape, and I often wonder how the owner came to dispose of it a at *any* price. Never buy an off-grade of sections, just because they are offered to you cheap. In the long run, the best is the cheapest. I have never yet seen a one-piece section that I considered worth putting the foundation into. The four-piece section, made from white poplar, is the only first-class section on the market. If you use the one-piece section, it should be put into a form, and one nail put in the center of the dove tail; this is necessary to have the section true. It is best to use full sheets of foundation first, last and at all times. It is much harder work for one to harvest a crop of extracted honey than it is to produce comb honey; and if one is in a good location, comb honey will pay best.

HOW TO PRODUCE EXTRACTED HONEY.

If you wish to produce extracted honey you should build your honey house bee-proof. A house for extracting, that will let the bees through any where, is a most undesirable place for the operator to work in. Have plenty of light—this is very important. Do not put up with anything less than a good 4-frame extractor. A 6-frame is

much better. My extractor is an 8-frame, and when I get another it will be a 10-frame. The larger the extractor the less brood it will throw out. It is the little honey extractor that wastes the brood. Next, get a honey cart to cart your honey from the apiary to the honey house. It should have springs, and the comb boxes should be made with a tin bottom to catch the drip. Your storing tank should hold 2,000 gallons, and have a large honey gate from which to fill the honey barrels. The tank should sit on the floor, and the barrels filled from the outside of the honey house.

Your uncapping box should be made of good white pine, put together with white lead, and well paraffined. It should have a wire strainer within six inches of the bottom, which should be made on a slant so the honey can be readily drained out. Each out-apiary should have a good up-to-date set of tools to work with. When I say the best, up-to-date tools, I mean extractors, smokers, knives, etc ; and please permit me to state right here that the most important and money saving part of all this great work is to buy two good foundation mills and make your own foundation. I make all of my foundation, and I find it one of the greatest saving points in managing large out-apiaries.

I read in the bee journauls, every now and then, where some writers claim that they have a non-swarming strain of bees. This, I claim to be utterly false When you breed out natural swarming, you have bred out all success in bee-culture. Nature knows more than we ever did; and God saw fit to multiply and replenish the earth by Nature's ways.

From my experience in building up 4,000 colonies of bees I find it more satisfactory to have one, good, experienced man in each apiary; then if anything happens there is some one present that knows just what to do, and how to do it. It will pay the owner of large out-apiaries to pay cash for labor; but the proprietor should know every little detail in the bee business; in fact, he must have practical knowledge. If you are to follow the system here laid down, you must absolutely understand the details and manipulation of the apiary. Man advances just in proportion as he mingles his thoughts with his labors.

DAMPNESS THE GREAT ENEMY IN WINTERING

Dampness in winter is the bee-killer. It is not the cold weather that kills the bees. I advise the bee-keeper to use chaff hives. I prefer forest leaves for the sides and ends, plenty of paper on top of the brood chamber, and plenty of good stores, with the back end of the hive two inches higher than the front end, and then let them remain on their summer stands. I will warrant the safe wintering of good stocks every time.

With all of my experienee in bee-keeping, I have found foul brood the greatest plague, I have often thought if I could just have all the bees, hives, honey and wax that have been consigned to the flames, I would not need any more to last me through life. To cure this disease, simply throw the swarm upon full sheets of foundation; but all diseased swarms should be treated at the same time. Do not trust to chemicals to destroy the spores of foul brood; the drugs are not powerful enough.

MATANZAS, Cuba, Dec. 12, 2904.

Editorial

The air is full of honeyed sounds. The bee,
Within the waxen lily's honeyed cells,
In monotone of mellow measures tells
Its yet unsated joyance; drowsily
The swallows spill their liquid melody
As down the sky they drop, and faintly swells
The tremulous tinkle of the far sheep bells,
While wind-haps sigh in every crowned tree.

Beneath the beechen shade the reapers lie,
Upon their lips a merry harvest tune;
Knee-deep within a neighboring stream the kine
Stand blinking idly in the clear sunshine,
And like a dream of olden Arcady
Seems the sweet langor of the summer noon.

—Clinton Scollard.

Shipping Cases for comb honey ought to be a little deeper than the height of the sections, when they are piled up a dozen or more high, then the weight of nearly the whole pile will not rest upon the honey in the lowest case, which in some cases, causes a leak. Mr. Irving Kinyon writes me that he got this hint from Mr. P. H. Elwood.

The Texas State Bee-Keepers' Association will hold its next meeting at College Station, with the Farmers' Congress, July 25th and 27th.

These annual meetings are usually largely attended and are pleasant and profitable occasions.

Visiting bee-keepers from other States are cordially invited to be with us.

W. H. Laws, President,
Louis Scholl, Sec.-Treasurer.

Mr. J. F. McIntyre, of California, writes that the out-apiaries are saving the battle for him this year. They will furnish him about 40 tons of honey, while the home-apiary, at Sespe, with the same number of colonies, will furnish only about half as much, owing to the foggy weather near the coast. Sixty tons of honey seems like quite a crop to us Easterners.

Producing both comb and extracted honey in the same suger, *a la* Townsend, is pronounced old by the American Bee-Keeper, and Mr. J. A. Green, of Colorado, tells the readers of Gleanings that he tried it and did not like it very well. He says the greatest difficulty was in keeping the sections and separators tight together in the middle of the super. Like many other plans, this seems to be one that must be tried to know whether it is adapted to the needs and circumstances of any particular case.

The Eastern races of bees do not unite well, says, J. A. Green in Gleanings. I have never had much experience in uniting any variety of bees except Italians, and I have never had any trouble with them. I have made perhaps 60 or 70 colonies this summer by simply taking from two to four combs of bees from one colony, then the same from another, and so on, until I had enough to fill a hive, putting them right in together, indiscriminately, and have not a particle of quarreling. The empty places in the hives from which the combs of bees are removed are filled with sheets of wired foundation, and a laying queen is given to the colony that has been made up. In that way I have increased 20 colonies to 97, so far this season.

Foul Brood is so often introduced into an apiary by feeding the bees honey from some unknown source, that I wish to second most emphatically the advice of Gleanings not to use honey for feeding bees unless it has been thoroughly boiled. There is also another point that I seldom see mentioned in the journals, and that is that it won't answer to boil honey full thickness. It

must be diluted with water, using at least as much water as honey. As a rule, sugar is a much cheaper food for bees than is the case with honey, and there is no danger of its use contaminating the apiary with disease, while it is a much safer food for winter stores. When I find foul brood in a neighborhood, and spend a lot of time tracing it to its source, I think it is half of the time that I find it originated from some bee-keeper feeding honey that had come from a distance.

"How to Keep Bees" is the title of a delightfully written book by Anna B. Comstock, and published by Doubleday, Page and Company, the publishers of Country Life in America, which is a sufficient guarantee of its typographical beauty. The illustrations are beautiful, and the style simple and direct, but there is an indefinable something about it that makes a veteran bee-keeper feel that the writer has had a more intimate acquaintance with the pen than with the bee smoker. The book is intended for beginners, and it seems as though it would answer the purpose in an excellent manner. The price of the book is $1.00, and it can be obtained of the publishers, Doubleday, Page & Co., New York, or the orders can be sent to the Review office. The Review and the book one year for only $1.75.

Has Each Colony of Bees a Characteristic Odor?

Perhaps one of the hoary headed errors that bee-keepers have been taught for years, is that bees recognize their fellows by some characteristic odor. The American Bee-Keeper brings up this question, and cites an example of the bees of a golden Italian colony being more or less mixed with other colonies, and bees from other colonies being mixed with the bees of the golden colony, all with apparent harmony. No dead goldens were found in front of other colonies. As a rule, I believe that a bee coming in loaded with honey will be admitted to any colony. Just how bees recognize each other is difficult to decide. When a robber tries to enter a colony, it is almost certainly collared and led out. Perhaps odor plays no part. It may be that it is the actions that give it away. Here is a point: In making up colonies I usually take combs, with the adhering bees, from about three different colonies, put them all together in a new hive, and give them a queen. Such colonies defend themselves against intruders from the *very first*. It would seem as though the different "scents" would be so badly mixed up as to be of little value.

But there is *some* way in which bees recognize one another, at least, there are *times* when they do. A small swarm of Italians once tried to join a colony of hybrids in my apiary, when the hybrids turned in and killed every last one of the Italians. Query, how did they recognize them? Was it their color? Or had they been away from the hive so long that their sacs were empty?

We have been told for years to cage a queen for several hours, or days, in the colony to which we wish to introduce her, and the reason given is that the queen may acquire the same *scent* as the colony. It would seem that there is some odor about a queen, as, if a cage is left in the open air, after it has contained a laying queen for some length of time, flying bees will gather about and cluster upon it, the same as they will upon a queen, but whether this odor is different in different colonies, or with different queens, is an open question.

A Model Apiarian Premium List—That of Colorado.

I don't know as I have ever published in the Review an apiarian premium list, but that of Colorado is so good that I must print it as a model. It is

evident that some vital points were kept in view in its preparation, such, for instance, as that of securing a beautiful exhibit that would be of interest to the general public; demonstrating to the people the magnitude of the honey industry of the State; also illustrating the various uses to which honey and beeswax may be put. The difficulty, danger and expense of getting the different exhibits to the fair, was also considered. For instance, bees and queens are given a higher proportionate premium, and comb honey is given a higher premium than that given to extracted. Here is the list complete.

Italian Bees and Queen in Single-Comb Observatory Hives, $8.00, $5.00, $3 00

Carniolan Bees and Queen in Single-Comb Observatory Hives, $8.00, $5.00, $3 00.

Caucasian Bees and Queen in Single-Comb Observatory Hives, $8.00, $5 00 $3.00.

Largest and best display of Bees of various races in Observatory Hives, $10.00, $6.00, $4.00.

Largest display of Queens of various races in Mailing Cages, 5.00, $3.00, $2.00.

Best Case White Comb Honey, $3.00, $2.00, $1.00.

Best Case of Light Amber Comb Honey, $2.50, $1.50, $1.00.

Best and largest display of Comb Honey, $10.00, $6.00, $4.00.

Best display of Special Designs. $3 00, $2.00, $1.00.

Best Dozen Jars of White Extracted Honey, $2.50, $1.50, $1.00.

Best Dozen Jars of Light Amber Extracted Honey, $2.00, $1.00, 50c.

Best and Largest display of Extracted Honey, $8.00, $5.00, $3 00.

Best display of Extracted Honey in Granulated Form, $3.00, $2.00, $1.00.

Best 10 lbs. Yellow Beeswax, $2.00, $1.00, 50c.

Best and Largest display of Beeswax, $5.00, $3.00, $2.00.

Best display Special Designs in Beeswax, $3.00, $2.00, $1.00.

Best display of Honey Producing Plants, Mounted, $3.00, $2.00, $1.00.

Best display of Fruits Preserved in Honey, $3.00, $2.00, $1.00.

Most Instructive display of Apiarian Products and of the various uses made of Honey and Beeswax, $20.00, $10.00, $5.00.

The Colorado fair will be held in Pueblo, Sept 11-15th and the apiarian department will be in charge of our genial friend Frank Rauchfuss of Denver. He will have an able assistant in the person of Mr. J. A. Green, of Grand Junction.

Criticisms on the Comb Honey Plan I Published Last Month.

Last month I briefly outlined the plan that I had long followed in the production of comb honey. I then asked for criticisms. The first letter on the subject is from my old friend Harry Lathrop, of Wisconsin, and it reads as follows:

BRIDGEPORT, Wis , June 26, 1905.

Friend H.—

You ask your readers to criticise your plan of comb honey production given on page 178. From my point of view, there is not much to be said in criticism. I would only say that I don't like the idea of contracting the full-depth brood chamber in which the swarm is hived. One reason why I adopted the eight-frame hive is, that it can be used at all times and for all purposes without contracting. Contracting requires more fixings and additional handling; and, furthermore, bees, for me, do not do good work in sections over dummies. I would rather contract the comb honey *super*, than the brood chamber that is under it. And if an eight-frame comb honey super is worked on a ten-frame brood chamber, no extracting combs would be needed in the comb honey department. Still, I think that the plan of using a nice white extracting comb in the sides of the comb honey super is a splendid idea. My method of contracting was to hive on a seven-inch brood chamber, and let the bees build their combs from starters. They build mostly worker comb, and these combs were used, after the first year, for extracting combs.

In hiving on full-depth frames I always had the best success by using full sheets of comb foundation.

I used a combination of the Heddon and shook-swarming plans when working for comb honey, and one of the best kinks of all was that of feeding the working stock with young bees from

the hatching brood as soon as any slackening is noticed in the work.

HARRY LATHROP.

I am well-aware that an eight-frame Langstroth hive can be used for hiving swarms when working for comb honey, and quite satisfactory results secured without any contraction of the brood nest, but the white honey that would go into the two or three outside combs goes into the sections when the space that they would occupy is filled with "dummies." Bees may not do quite as well over "dummies" as over brood-combs, but there will be more honey go into the sections when dummies are used, then if the swarm is given the whole space of eight combs. There will be more brood and honey in the brood nest if no dummies are used, and little, if any, feeding or preparation will be needed for winter, while the use of only five Langstroth combs in the brood nest will necessitate feeding, or the uniting of colonies, unless there is a fall flow. As Mr. Lathrop says, contracting an eight-frame hive, brings in "fixings," and takes time; and the bee-keeper must consider all of these things in making a decision.

I would never think of contracting a *super* instead of the brood nest. Contraction is practiced to force the white honey into the supers, and, to contract the super, and leave the brood-nest full-size, would be a step in the wrong direction, as I look at the matter.

Another good letter on this subject comes from that old veteran, F. Greiner, of N. Y. Here it is:

NAPLES, N. Y., June 25, 1905.

Mr. Editor Review:—The system of comb-honey production, as spoken of in your last editorials, is all right. You had a good honey location, or your colonies would not have stored three supers full of section-honey. In many other localities two supers would be all that could be depended upon, at the most, from clover and basswood. The hiving or shaking of swarms, giving them a very much contracted brood-chamber, will frequently produce swarming-out, no matter whether the hive is filled with combs, foundation, or only frames with starters. The safer way is to give a large brood-chamber and contract after four or five days.

The uniting of the shaken and new swarms at the end of the season is not necessary in a location with a fall flow, unless we wish to obtain a good surplus from this. If we desire to increase, it will be just as well to give each colony the full number of combs at the end of the white honey harvest. Thus we will have good heavy swarms in every hive by winter. If more increase is desired, all mother-colonies may be divided at or about the time the young queens are emerging. Each half is given combs to fill their hives. I have often treated my late swarmers this way, in times gone by, and had good colonies to go into winter.

F. GREINER.

Of course, there were many points that I did not touch upon in the outline that I gave, and the trouble that may arise from swarms swarming out is one of them. I soon learned that if I wished no trouble from this source, I must give a full-sized brood nest for three or four days, until the fever had worn off and the bees had settled down to business, when the contraction might be made as severe as was desired.

Introducing Queens With Tobacco Smoke.

Mr. W. G. Secor, of Greenfield, Ill., writes as follows:

"On page 175 of June Review you tell of your success in introducing queens with tobacco smoke. I wish that you had told all about it. You say 'in the spring,' was it during fruit bloom? Or was it when no honey was coming in? You say the work was done at dusk; I would like to know when you made the colony queenless; was it that same afternoon? I would like to introduce a dozen or more in September, but I have spent more than $50 for dollar queens, and lost lots of them in trying to introdnce them, and it takes the sand out of a fellow After making the colony queenless, would you run in the queen with the escort, or just the queen alone? Do you think that the work can be done in the fall as well as in the spring?"

I introduced some queens before fruit bloom, some during the time that fruit trees were in bloom, and some after that season had passed, and before clover had commenced. I have also been introducing them since the advent of the clover harvest. In short, not a week has passed, since it was warm enough to handle bees, when I have not introduced queens. I have often caught the old queen and removed her at noon, caged the new queen in the hive until dusk, then released her. When no honey was coming in, I have usually fed the colony to which I was introducing the queen, but I have not always done this. I never attempt to introduce a queen with her escort of bees. I think it easier to introduce a queen without having any bees with her, but an important reason why I destroy the escort and the accompanying cage, is to be certain that no foul brood gets into the apiary from this source. A queen alone does not communicate foul brood. When a queen comes, I open the cage before a window, let out the occupants, catch the queen and put her into a wire cloth, cylindrical cage, and consign the mailing cage and the bees to the flames. I get my queens, when I get them away from home, from men who would not knowingly send out queens from an infected apiary; at least, that is my opinion of them, but, all the same, I consider my practice a safe one to follow.

I know of no reason why queens can not be as easily introduced in the fall as in the spring, unless it might be that the colonies are stronger in the fall, and it is more difficult to introduce a queen to a populous colony than to a weak one. If I should find much difficulty in introducing queens to full colonies, I would start a two-frame nucleus from the colony, and first introduce the queen to this, then unite the nucleus with the full colony. I never have lost a queen by this method. A weak nucleus of young bees will almost certainly accept a queen, and a laying queen surrounded by her own bees is almost as certain to be accepted by a queenless colony.

A Red Hot Letter Upon Some Burning Questions of the Day.

A short time ago I received a private letter from a subscriber in a Western State, and it contained so many sharp and pithy points that I would like to have my readers see it. As it is a private letter, and I have no permission to publish it, I do not feel at liberty to give the name of the writer. I have neither space, nor inclination, to-night, to comment upon it (I have been working hard all day in the apiary, and I am tired) but, after reading it, if any of my readers feel like answering some of the questions asked, the columns of the Review will be open. Here is the main part of the letter:—

W. Z. Hutchinson,

Flint, Mich.

Dear Sir:—I am minded this morning, having a little leisure, to write you a few lines. (?)

I just read yesterday, your article in Wallaces' Farmer, with the views of which I quite agree. (The article told how to secure the best bees.—Ed. Review.)

But, it is not of that subject I wish to speak; the knowledge of bees and honey production is spreading faster, in my estimation, than is the consumption of honey. For instance, two years ago I produced about 10,000 lbs. honey, and sold all at a fair price and could have sold more; last year I had only about one-half as much, yet didn't get as much per lb., while I did a great deal more peddling, and still have a little left over.

I remember, a few years ago, it was the exception for the farmer, with his few hives, to get any honey; while now farmers are reporting more honey per colony than I can average. (Perhaps your location is overstocked more than theirs.—Ed Review.) And, as you aptly stated some time ago in the Review, it is like competition with a bankrupt man to compete with the

farmers' prices for honey. I am writing from experience; I *know* whereof I speak when I say that the general run of farmers who keep a few hives will, and do, sell, and, *expect* to sell, lower than the regular bee-keeper who makes a business of bees There are reasons why they must, or *think* they must, but I will not take the space to enumerate them here.

There is perhaps no other business than bee-keeping, in which those engaged therein try to induce direct competition. In real bee-keeping, for the production of honey, there is probably not much of this, but, unfortunately, the supply men, or some of them, and the bee journal publishers, think it to their interest to boom the business to outsiders on all possible occasions.

I wrote a few articles for Wallaces'; they are fine people to deal with, but, as I said above, I saw that the farmer would take in the information, but when it comes to putting up his honey in decent shape, and holding it for a fair price, or rustling up new customers for it, he simply *won't*—he isn't fixed to do it, and hasn't time.

Did you notice, Edwin Bevin's article in last American Bee Journal? That is the fix a great many bee-keepers find themselves in, I am afraid. And your Honey Producers' League, that he proposes joining, will not solve the problem. There is a vast difference between the production of a cheap article, like glucose, and through advertising and fancy packages, selling the same for the price, or near the price, of a superior and costly article, thus getting a large profit to cover said advertising, etc., and the production of a costly article like honey, in which there is no large margin to cover such expenses. And, besides, and this is the *great* difference, the manufacturer of the corn syrup has only a limited number of competitors, whose expenses are nearly the same, and who *cannot* sell without a *profit*, whereas, the honey producer's competitors are almost as "numberless as the sands upon the sea shore;" and many, especially our friends the farmmers, *do* sell without a *profit*; or on such a small margin that one cannot make a living, unless making something at some other occupation. Now, I wouldn't say a word against helping the farmer on all possible occasions, if he *needed* it, but he doesn't Nine-tenths of the farmers who keep a few bees have more than they can well do at the time that bees need the most attention; I never knew one who could not have made more attending to his *farm*; and they nearly all do neglect the bees to the extent that their honey is in poor shape to market.

If the article in Wallace's had been signed Emerson Taylor Abbott I would not have been so much surprised; I confess I *was* surprised as I thought you favored bee-keeping for bee-keepers. (My friend is surprised that I would even contribute an article on bee-keeping to a farm paper.—ED. REVIEW.) Of course, *your* turn to be surprised will come when I tell you that *I am a farmer too.* But, like Bevins, I have arrived at the point where I would keep bees for revenue, when lo—the revenue has disappeared! It is my belief, though, that bee-keeping, as a *business*, will disappear, except in a few isolated localities, for the majority seems to be on the other side.

You say the bee-keepers are too docile; follow their leaders too easily; surely you have been around enough to know that this following is mostly *on paper*. We can't help following, as far as the papers are concerned. Don't almost all bee-keepers know there is a combine or understanding among the leading manufacturers? And yet, in what paper can it be *denounced*? Unless I am greatly mistaken there are plenty who do not "follow," but it could hardly be told by the journals. And doubtless there are others who would not follow were it safer to do otherwise.

Producing Good Extracted Honey.

What is it that gives to honey its value? It is not simply its sweetness, which is of low power; but it is its fine flavor and rich aroma. These are the qualities which make honey what it is —a luxury—and, if we wish its use continued as a sweet sauce, we must learn to produce and care for it in such a manner as to preserve its ambrosial, palate-tickling qualities. Freshly gathered nectar is one of the most "silly" tasting and sickening of sweets. To be sure, it has the flavor of the flowers from which it was gathered; but that smooth, rich, oily, *honey* taste, that lingers in the mouth, must be *furnished by the bees.* Honey ex-

tracted when "green" and evaporated in the open air, is not only lacking in the element that comes from the secretions of the bees, but its blossom-flavor is half lost by evaporation. To be sure, evaporation must take place if left in the hive, but evaporation in the open air, and evaporation in the aroma-laden air of the hive produce different results.

One reason why comb honey is, in so many instances, found to be more delicious than the extracted, is because the former is more thoroughly ripened, and then sealed up from the air. Seldom do we find extracted honey equal to that dripping from and surrounding the section of comb honey that is being carved upon the plate. Many of those who produce extracted honey in large quantities, extracting before it is thoroughly ripened, admit that such honey is inferior, as a table sauce, to that ripened by the bees, but they say they cannot afford to produce the best article possible. The quantity of honey is not materially lessened by thoroughly ripening it; if larger crops are secured by extracting it "green," it is the result of the stimulus given the bees by furnishing them such an abundance of empty combs. By the use plenty of store combs and supers, the same results, or nearly the same, may be obtained, and the ripening of the honey secured by tiering up. The interest upon the cost of extra combs and supers is a small thing compared with the putting of unripe honey upon the market. By the use of plenty of combs, tiering them up, the work of extracting may be put off until the busy season is over. The great trouble is the lack of incentive for producing well-ripened honey for the general market. The production of extracted honey to be shipped away for some commission merchant to sell, is much like making butter to be sold at a country store. All brings the same price. White clover honey brings so much; buckwheat so much. The honey with the fine, delicate flavor, the thoroughly bee-ripened, well-preserved, superior article, will not bring one cent more in the general market than the ordinary, *pretty good* honey. Perhaps, for manufacturing purposes, there is no advantage in having such a superior article, but for table sauce there is; and the only way in which the man who produces a really superior article can hope to receive pay for his extra trouble, is by selling direct to consumers, or by establishing a reputation for his honey among dealers and their customers. The only secret in producing a superior grade of extracted honey, honey that will be the equal of that that drips from the delicate morsel of comb at the tea table, is that of leaving it on the hive until it is sealed and thoroughly ripened. Leav- the honey on the hive a few weeks after it is sealed seems to give an added ripeness or richness. Of course, robbers are ready to give trouble after the close of the season, but the use of bee escapes overcomes this difficulty. When the supers are freed from bees by the use of bee escapes, the honey is usually cold by the time it is off the hive, it having lost the heat imparted to it by the bees, and it does not extract nearly so easily as though the bees had been brushed off and the honey extracted immediately. The proper course is to stack the supers up in a warm room, one heated by a stove, until the honey is warmed through, when it may be thrown out with the greatest ease. I am aware that this system is not the one usually followed, but I believe it has decided advantages over other systems, and results in honey of a superior quality. Have plenty of combs and supers; tier up the same as in the production of comb honey; leave the combs on the hive until the honey is thoroughly ripened; remove the honey by the use of bee escapes, and warm it up artificially

when ready to extract. This plan greatly lessens the work during the busy season, as about all there is to do is to see that plenty of surplus room is provided. If the harvest is prolonged, lasting several weeks, it is quite likely that some of the supers will be ready to come off before the harvest is over, and it may be best to remove them if they are becoming piled up too high.

It seems almost unnecessary to say that I would use a queen-excluding honey board over the brood nest. If bee escapes are to be used, the presence of brood in a super will defeat the plan, as the bees will not desert the brood. If we are going to brush off the bees and extract the honey at once, no honey that is thoroughly ripe can be successfully extracted without at the same time throwing out some of the unsealed brood if any is in the comb. With unusually deep combs in the brood nest, it may be advisable to use shallower combs in the supers, with combs no deeper than the Langstroth, I doubt the advisability of having any shallower combs for the supers. In the production of extracted honey there is not much to choose between an eight-frame Langstroth hive and a ten-frame one, unless out-apiaries are to be established, when the ten-frame hives seem to enable the bees to bear neglect, to shift for themselves, to better advantage. They are less likely to run short of stores. Some bee-keepers use only nine combs in a ten-frame super, or seven combs in an eight-frame super, thus inducing the bees to lengthen out the cells and make the combs thicker. The honey ripens more slowly in such deep cells, but the uncapping is thereby greatly facilitated. When the combs are uncapped, the cappings should be given a thorough opportunity to drain, and, if they are kept clean, the water in which they are melted when they are rendered into wax may be made into vinegar. H. G. Sibbald, of Ontario, has the best uncapping box that it has been my good fortune to see. It is five feet long, 16 inches wide, and made in two sections, each nine or ten inches deep. The lower section is for honey, and, with the exception that the corners are halved together, it is simply a well-nailed and neatly made box, waxed inside at all joints, with a honey gate at one end to draw off the honey; the legs being a little shorter at the end having the gate, so that the honey will run off readily. The top half or section is made in the same manner, only that, instead of a board bottom, it has a wire screen bottom which allows the honey to drain from the cappings. The bottom section is halved on the inside, upper edge, and the top section halved on the outside lower edge. Being made in this manner, the lower edge of the upper section fits inside the lower one, and thus no honey runs down outside the lower box.

After the honey has been thoroughly ripened, and is extracted, and found to be in possession of all the fine qualities I have mentioned, what shall be done with it? How shall it be treated that it may *retain* its flavor? The key to success in this direction is *exclusion of the air*. Seal it up in glass jars, or tin cans, or in clean barrels; and the sooner this is done (after the particles of wax and scum have raised to the top) the less the escape of aroma. My preference is a round, jacketed, tin can, with a flat top, and a large screw-cap in the top. A five-gallon can of this kind, holding 60 pounds of honey, can be bought for about 30 cts. This style of package can be rolled on the floor, while the square can must be picked up and carried, or else slid along upon the floor. A barrel is really the cheapest package for storing or shipping honey, and when we know that the honey is to be shipped to some manufactory, there is no objection to the use of barrels if they are well-made.

Upon the approach of cool weather, most honey will candy; and, if sealed up tight, and put away in a cool place, it will remain in that condition for years; and when brought *slowly* and *carefully* back to its liquid state, it will be found to have retained its original "flavor, aroma and boquet." Too much stress cannot be placed upon the care necessary in liquefying candied honey. So many think if honey does not boil it cannot be injured. The temperature of boiling water will ruin the flavor of honey. When a can of candied honey is placed over a stove, or in any other hot place, the outside of the cake of honey soon melts, and this may become very hot before the rest of the cake has dissolved. In a tank of hot water is the best place to liquefy a can of honey, but the temperature should never go above 160 or 170 degrees; and, by the way, when melting the honey, don't loosen the screw-cap and leave it open, as it only allows the escape of the aroma.

EXTRACTED DEPARTMENT.

THE HONEY PRODUCERS' LEAGUE.

The Formation of Such an Organization May Have a Good Effect.

The Honey Producers' League has not yet secured the desired $5,000 with which to begin advertising, but its Manager is putting forth every effort to make good use of the name of the League. He recently had an article in the Chicago Times, in which he combated the artificial comb honey story, and called attention to the League as an Association organized to place honey before the public in its true light.

Mr. York also wrote an article embodying an interview that Mr. Wm. A. Selser had with the editor of Philadelphia's oldest and best paper, the Press, and sent it to that paper, but the editor took the pains to put it into an editorial, instead, which, of course, beats anything that could appear in the shape of a contribution. Mr. Selser says that he (Selser) has worked hard for a long time to secure this result, and, of course, he is properly elated over the results. As the editorial is short, it may be well to copy it entire, then the readers of the Review can show it to other papers who print this old artificial honey canard. Here is the editorial:—

Pure food has its myths as well as every other crusade for reform.

The ingenious story printed as a Sunday special in the supplement of a number of papers by a Newark correspondent, who made a busines of furnishing ingenious hoaxes, that honey was made of glucose and forced into combs made of paraffine, has remained for twenty years the bane of the honey industry and the sport of the exchange editor.

The old story is still in circulation, passes through that devious orbit which begins with the syndicate, passes to the Sunday special, finds its way to the patent insert, is repeated by more reputable weeklies, taken up again by some ingenious writer and started again on its syndicate course.

The Honey Producers's League, formed in Chicago last March, has enlisted itself in the effort to end this myth. For years it appears there has been a standing offer of $1000 for any honey of this character. In the nature of things, neither paraffine nor glucose filling can be prepared and sold at the price at which actual honey can be furnished. Liquid honey, separated from the comb, is sometimes adulterated, but any bee-keeper is aware that it is impossible by artificial means to counterfeit the disposition of honey in the comb as made by the ingenious and busy but non-adulterating bee.

Honey was the earliest of sweets. It undoubtedly began the human preference for sweets by its consumption in

the days of the Lemur and the later Simian ancestor who succeeded the Lemur in the chain of human development. It produces none of the dietetic disturbances due to either beet or cane sugars. Its production steadily increases in this country. Its consumption grows and in time, if the Honey Producers' League accomplishes all that it proposes, people will undoubtedly understand that no food is so free from adulteration as honey in the comb.

TEN TONS EXTRACTED HONEY.

What to Do With it if We Get it.

In an excellent article, under the above heading, and published in the Progressive Bee-Keeper, Mr. C. W. Dayton, of Chatsworth, California, urges that honey be fully capped before it is extracted, even left on the hives a few days after it is capped; then he would store it in tanks that any thin honey might rise to the top, drawing the rich, heavy, ripe article from the bottom. These tanks Mr. Dayton makes of galvanized iron, waxing them thoroughly on the inside, painting them on the outside, after which he buries them in a mixture of ¾ earth and ¼ lime. He says that the lime takes up the moisture from the outside, besides absorbing any that may escape from the honey. Burying the honey keeps it of an even temperature, thus preventing granulation. Here is what he says about the selling part of the problem:—

When I was at Florence a few days ago a new customer came to my apiary and said he had waited for days to catch me to buy some of my honey. Then he gave me the name of a friend at Los Angeles and insisted on my taking a 5-gallon can there. First I went to the place without the honey to be sure if they really wanted to buy honey. "To be sure, they said, if it was satisfactory." It was a boarding house and the landlord and several boarders, some of them lately from the East, gave me a perfect jumble of stories about machine comb honey and glucosed extracted. I gave no answer. It would have made my case worse if I had. When I brought the honey the next day they gave it the highest praise from the start. Now, this was not first class water white, but it was a medium grade of amber in a high class boarding house. And they insisted on having my name and address to get more. In the first twenty-four hours after I arrived in Florence, 14 five gallon cans were sold to persons who found out that I was at the apiary and they came there for honey. I can find customers about Florence who have bought honey regularly, every two weeks, for seven years, without a miss; unless we neglected taking it to them as per order.

I am not arguing in honor of our methods or salesmanship any farther than it conforms to the natural way of treating honey. There is another big crop almost in sight and the question is, what effect it will have on the present "dull market?" I expect that the price will go pretty low. I will not be very active in the market until the storm has gone over. Seven cents per pound for amber and eight cents for water white will be our figures. Most of our old customers will stay "with us" as they have done before. The storm will be mostly over by December or January. It costs 8 cents per 5 gallons to store honey in tanks. Each tank takes one sheet of 30 x 36 in. galvanized iron, and another piece 24 x 24 in. off another sheet. I have just enough time to make one tank while my wife is preparing breakfast. And one tank is sufficient to hold one day's extracting. The caps to the 600 pound tanks are arranged so that the moisture can continue to escape for two or three months through the hot weather; then the caps are screwed down and the tanks buried in the lime earth about a foot over their tops, to await orders. When I receive an order I go with a clean five gallon can, or other receptacle, and draw from the bottom of the tanks. Only unearth one tank at a time. I do not use any expensive honey gates but a special gate which is to be soldered on the side of the tanks.

I should have mentioned that the pipe from the extractor leads to a tank large enough to hold a week's extracting. I suppose those many-hived short-cut bee men will adhere strongly to anything relating to big tanks full, but there are four requisites in the production and disposal of a crop of honey. First, is quality and ripeness; second, is price; third, is full weight;

fourth, always keep it on hand. The failure in any one of these things will bring any market "to grief." The price should not be too low nor yet too high. I read of some bee-keepers retailing their honey at 12 to 15 cents for extracted. I call that an exhorbitant price. There is a limited market which will buy it at that. We have a few such customers as that, and by going to a great deal of trouble to look up only such, we might sell it all that way. But it takes a great deal of labor to hunt up such trade. We like that trade best that will hunt for us. With sugar from five to seven cents we find that honey will rest easily at seven to nine cents. At this the laboring class and most of the well-to-do will buy it, and buy it often and with regularity. It might suffice for an occupation to tide over a poor year to sell at the high price. But the level price from year to year, comes out best. Customers, or at least steady customers who have any economic intentions, become suspicious of fluctuating prices, and when prices go up they will think they are about to be cheated, and when the price goes down of course they take it for granted that they have been cheated all along.

Another ingredient, that is almost or quite as important as any of the four mentioned above, is time. It takes time to show people that honey is ripe, is full weight, etc. The second, third and even more times it may require to convince customers that there is no variation. Then after they have learned it, keep right on "mailing them." Confidence thus gained is worth more than half of the crop that is to be sold. In fact, the bee-keeper who has a confidential line of customers is as well off as if he had already harvested a considerable crop even before his bees are out of winter quarters. It is making one crop sell the next. And eventually his crops will sell themselves. If you are going to cheat, go far from home to do it. But even then it will not pay where it is likely to be drifted back into your locality again; as might be the case with honey. It might not identify your conduct to your neighbors, but you will suffer from it nearly as much as if it did.

I used to produce and sell as much of comb as extracted honey. After a customer bought once or twice, and thought of the lower price of extracted, and tasted and considered, he invariably decided to take extracted and continued to call for it. As one customer did another did. I never put in a word in favor of either kind. Now, after twelve years, I would not sell one case of comb honey to ten pounds of extracted.

It would be impossible to turn these customers back to honey in the comb. If I kept bees for fifty years, I could find no reason to run one hive to its production. My customers would not accept jars of extracted with chunks of comb honey floating in it, as some bee-keepers put it up. They prefer the clear extracted at the same price. Many have said that they want the honey to eat, not to look at. And by paying strict attention to these before mentioned requisites it found a position in their culinary departments that nothing else can displace. We have just three things to look after in our apiary management viz: Good queens, "elbow grease," and tanks.

Imported Carniolan Queens!

A limited number of choice imported Carniolan queens will be disposed of during July and succeeding months. I shall be in Carniola during July making these shipments which will be distributed from Washington, D. C.

PRICE—Select Imported Queen $4.00. Write for rates for three or more. Address

RALPH BENTON,
925 N. St. N. W.
7-05-1t WASHINGTON, D.C.

BEE-SUPPLIES.

Lewis' Goods at Factory Prices.

Best shipping point in the United States. Special inducements on bee-hives. 88 page Catalog—good information for all bee-keepers—free. Ask about our free pocket mirror.

C. M. SCOTT & CO.,
1002 E. Washington St.
3-05-5t INDIANAPOLIS, IND

THERE'S NO SECTIONS
LIKE
LEWIS SECTIONS.

Manufactured by **G. B. LEWIS CO.,** Watertown, Wis., U. S. A.

And for sale by the following:

E. T. Abbott, St. Joseph, Mo.
Wis. Lumber Co., Fairbault, Minn.
Dadant & Sons,, Hamilton, Ill.
C. M. Scott & Co., Indianapolis, Ind.
Fred W. Muth Co., Cincinnati, O.
Norris & Anspach, Kenton, O.
A. G. Woodman, Grand Rapids, Mich.
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hansen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co., San Antonio, Texas., 438, Houston St.
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa.
Colorado Honey Producers Association, Denver, Colo
Fruit Growers' Ass'n., Grand Junction, Colo.
Arkansas Valley Honey Producers, Association, Rocky Ford, Colo.
R. C Aikin, Loveland, Colo.
Paul Bachert, Acton, Calif.
Chas. H. Lilly & Co., Seattle, Wash.
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A. Coppin, Wenona, Ill.
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C. B. Stevens & Co., Havana, Cuba.
E. H. Taylor, Welwyn Herts, Eng.

Make Your Own Hives.

Bee - Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

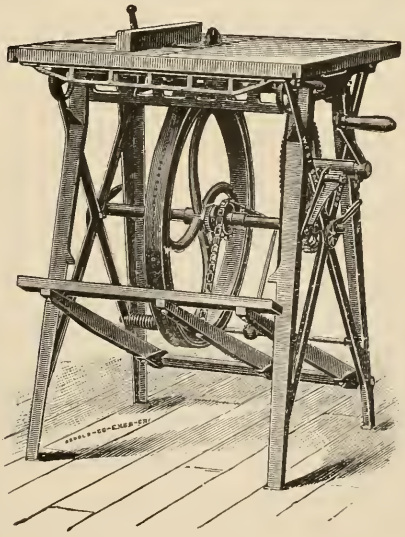
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

4-04-19t



PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson. Untested queens, 75c; after June 15, 60c Tested queens, $1.00; after June 15, 75c Selected tested queens, $1.25; after June 15, $1.00.

Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.

Good Queens

and bees cost no more than poor ones. We furnish good ones on short notice. Untested, 75c each; $4 00 for 6; or $7.50 per dozen. Tested, $1.25 each. Breeders, $3.00.

Nuclei, 1-frame, with queen, $1.50; 2-frame, $2 00; 3-frame, $2.50. Absolute satisfaction or no deal We breed six pure races. Price list describing them free. We are agents for the Dittmer comb foundation for this State and sell at Dittmer's prices. If you wish your wax worked into foundation for cash we will receive same and furnish you the foundation from our stock; which will save you much time and freight,

THE BEE AND HONEY CO.,
2-05-tf Beeville, Tex.

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-01-1 147-149 Cedar Lake Road

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

—If you are going to—
BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

American BEE Journal



All about Bees. 16-page Weekly. Sample Free. $1 a year; 3 months' Trial Trip, 20c. silver or stamps. Best writers. Oldest bee-paper; illustrated. Dept's for beginners and for women bee-keepers.
GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL.

1 1-2 STORY,

8-frame hives. either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with order of $10.00. Send for free list.

W. D. SOPER

R. D. 3 Jackson, Mich.

ITALIAN QUEENS

Untested, 50 cents each, tested, 75 cents each; Carniolan queens, same price. Bankston baby nucleus hive nailed ready for use, by mail, 35 cts.; nursery cage, by mail, 35 cts. Send for circular.

Full instructions are sent showing how to operate the new Queen Rearing outfit.

C. B. BANKSTON,
Milano,
05-5-tf Milam, Co., Tex.

The Bee-Keepers Paradise.

300,000 Acres of Wild Land for sale, in the Famous Fruit Belt Region of Michigan, at low prices and on easy terms.

These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars. "No trouble to answer letters."

Address:

J. E. MERRITT,
Gen'l Mgr.
Michigan Land Co.,
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Big Cut in Rates California and Back

Santa Fe

All the Way

F. T. Hendry,
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151 Griswold St.
Detroit, Mich.

The Santa Fe will run first-class excursions, Chicago to California, on certain days, April to August.

Fare out and back about half the usual price. You may go on California Limited and visit GRAND CANON.

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

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BEE-KEEPERS
SAVE MONEY

Get our prices on all Bee-Keepers' Supplies before you buy. Send for Catalog We carry a full line, and will not be undersold.

HONEY CANS AND FOUNDATION —We represent the American Can Co. in Texas, as their sole and exclusive agents for honey cans. We also handle Dadant & Son's world-famous Comb Foundation, exclusivly. Get our prices before buying.

BEES AND QUEENS, in any quantity at all seasons of the year. Let us quote you.

HONEY AND BEESWAX bought and sold. We will buy your honey crop; and we especially want your beeswax at the highest market price.

H. H. HYDE
Successor to
THE GRAHAM-HYDE BEE CO.,
San Antonio, Texas.

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POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times. Low freight rates. Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
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Dittmer's Foundation
Is the Best.

Will tell you WHY. If you will send for **Free Catalog and Samples.**

Early Order Discount on Full Line of Supplies.

WHOLESALE AND RETAIL.

Working Wax into Foundation for Cash a Specialty.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

Gus. Dittmer,
Augusta, - - Wisconsin

I Am

In Dead Earnest

About One Thing,

That is to give you the very best **Home Remedy** that can be had anywhere or at any price.

If I fail to please you it is I who wants you to have your money back more than you yourself, want it.

Are you prepared now to head off Summer Fevers and other diseases that are bound to come as they always have?

You can depend upon *Yellowzones* to do these things for you. And they will often save you from large doctors' bills as from suffering; and *this is no idle tale.*

YZ **Here is an open honest testimony from a lady in whose family YZ have been used constantly for 9 years.** **YZ**

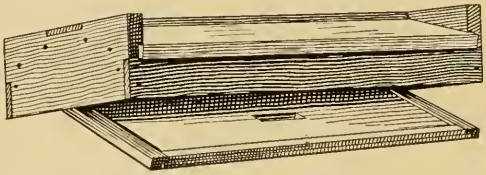
Dear Mr. House:—Find one dollar enclosed for **YZ**, for which I thank you in advance.

We have not had a doctor in our house (only for friendly calls) since mother died, nearly seven years ago. The **YZ** are so good they help us out every time. We always have them in the house. I wish I could remember when we got the first box. [It was in 1896.] Very sincerely yours,

A Dollar Box of YELLOWZONES will put you in shape to head off and cure almost all the ailments that are likely to molest you—and your money returned if not satisfactory. That's a good investment.

Full size box, with vial of Zonets for bowels and liver, $1.00. Trial size 25c.

W. B. HOUSE, M. D., DeTour, Mich.



COLORADO HIVE COVER.

SATISFACTION

To the bees and SATISFACTION to the bee-keeper is the aim and object of the manufacturer whose name appears with this ad.

The Colorado Cover is a double cover with air space—the outside cover is made from full ⅞ inch white pine. It cannot leak, it cannot warp, it retains the heat of the colony so necessary in early spring, and it is impenetrable to heat in the hottest climate.

PRICE—1 nailed—40c. 10 in flat $3.00.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

Flint, Mich., Apr. 17, '05.

Friend Putnam:—

Yours saying that you would send the sections in a few days is here. Thank you.

Ever since nailing up those hives, I have felt like writing and thanking you for the excellent material and workmanship. The lumber is practically clear lumber, and the workmanship simply perfect—everything smooth and accurate. If every shipment that you send out is like this, you will eventually have more business than you can look after.

Yours Truly,

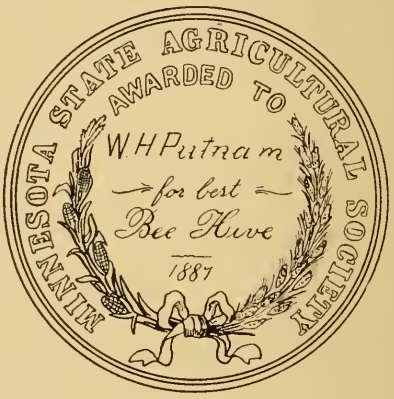
W. Z. HUTCHINSON.

OUR NEW POLICY.

Now is the time to make plans for 1906. Our plan is to establish a branch house at every country town. Write for particulars.

The Rural Bee-Keeper better than ever this year. Write for sample copy.

Join our EXCURSION PARTY to San Antonio, Texas. Leaves Chicago, Oct. 25th. Round trip $20.00.



The RUSH season is over. We have a good supply of Standard Goods on hand. We cater to the trade that demands QUALITY. We give value received and PROMPT SHIPMENT.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations

The fol owing rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

NEW YORK—No demand for comb honey. Extracted in fairly good demand with ample supply. We quote as follows: Fancy white 13c; No. 1, 12c; fancy amber, 10 to 11c; No. 1, 10c; White, extracted, 6½ to 7c; amber, 5½c; dark, 5c; beeswax, 28 to 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
June 11, 1905. New York.

CINCINNATI—We sold today, at our store, new crop of fancy comb honey, at 13½c per pound. There is still a big stock of last season's honey on the market, that is going begging at any price. Extracted honey is moving quite lively now. We sell amber honey in barrell at 5¼ to 6½c, according to quality. White clover honey 7 to 8½c. Beeswax, 26c.

THE FRED W. MUTH CO.
July 10-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—There is very little new honey coming in. Not much demand while fruit is so plenty Some old stock is going out very slowly at low prices. We quote as follows: Fancy white, new, 14 to 15c; No. 1, 12 to 13c; fancy amber, No. 1 and fancy dark, 8 to 10c; No. 1 dark, 6 to 7c.

BATTERSON & CO.,
July 7, 1905. Buffalo. N. Y.

CHICAGO—The volume of sales are infinitesimal; hence prices are not considered to be important at this season. Comb brings 12 to 12½c per lb. for best grades, off lots 7 to 10c; extracted 5 to 7c, according to what it is. Beeswax sells upon arrival at 30c per lb

R. A. BURNETT & CO.,
June 7, 1905. 199 So. Water St.

KANSAS CITY—The demand for honey is improving and receipts for new honey are a little heavier each week; we believe prices will remain firm for some time. We quote as follows: Fancy white, No. 1 white, $2.50 to $2 75 per case; fancy and No. 1 amber, $2.00 to $2.50 per case; white, amber and dark, extracted, 4½ to 6c: beeswax, 28 cents.

C C. CLEMONS & CO.,
July 8, 1905 Kansas City, Mo.

CHICAGO—Trade on come honey is still very quiet on account of heavy arrivals of fruits of all kinds, but we look to see a reaction by the latter part of this month. Strained honey has been moving quite freely this mouth. We quote as follows: Fancy white, 12 to 13c; No. 1 white, 11 to 12c; white extracted, 6 to 6½c; amber, 5 to 6c. Beeswax, 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
July 8, 1905 Chicago. Ill

KANSAS CITY—The market is well cleaned up on comb honey. Extracted in light demand. Beeswax is in good demand. We quote as follows: Fan y white, 10c; No. 1 white, 9c; white, extracted 7c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
June 3, 1905 423 Walnut St, Kansas City, Mo

TOLEDO—The market on comb honey at this writing is practically unsettled, and a great many are waiting to see how the new crop is going to come out. Most of the old honey is pretty well cleaned up, and very little new honey is being offered as yet, and we think fancy would bring 14 to 15c; No. 1, 13 to 14c, with little demand for amber. Extracted, in barrels, white clover, 5½ to 6c, cans, 6½ to 7c. Good demand for amber honey in barrels, 4½ to 5c, cans, 5 to 5½c.

GRIGGS BROTHERS,
July 13'05 Toledo, Ohio,

ITALIAN QUEENS.

Fine, Northern-bred; originated from best long-tongued, "RED CLOVER" breeders in United States; work on red-clover; bred in full colonies, for business, under swarming influence; noted for their excellent honey gathering, wintering qualities, and gentleness.

Untested, $1.00; six, $5.00; Tested, $2.00; six, $10.00; Select Tested, $3 00; Extra Select Tested, $4.50. After July 1st, Untested, 75c; six, $4.00; Tested, $1.50; six, $8:00. Satisfaction guaranteed. Write for full descriptive circular.

ISAAC F. MILLER,
5-05-3t R. F. D. No. 2, Brookville, Pa.

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases. Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.
2-'05-tf

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Every beekeeper should subscribe to Gleanings in Bee Culture. No progressive one can afford to miss a single number. You subscribe to one bee paper already? Now, isn't it entirely logical that if you find one bee paper profitable that two papers would be doubly so? Providing the second paper was right and Gleanings *is* right. Every reader of the Review is familiar in a way with Gleanings, so it is not necessary to go into details regarding it. Every number is entirely original matter. Every number contains a wealth of illustrations that is not exceeded by another of its class. In fact Gleanings is par excellance in many ways.

GLEANINGS BOOKLET

We have just published a little booklet devoted to Gleanings. It is perfect miniature of Gleanings, going into detail describing every department, showing just how Gleanings meets the needs of *every* beekeeper *everywhere*. We will gladly send this booklet and a sample copy of Gleanings free on receipt of a postal.

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By Dr. C. C. Miller, Ills.

Bee-Keeping Among the Rockies
By J. A. Green, Colorado

Gleanings from the Pacific Coast
By Prof. A. J. Cook, Calif.

Bee-Keeping in the Southwest
By Louis Scholl, Texas

Conversations
By G. M. Doolittle, N. Y.

Editorials By E. R. Root

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Hoffman Frames
By Julius Hoffman

Producing Both Comb and Extracted Honey from the same Super By E. D. Townsend

The Scent Factor in Introduction
By Arthur C. Miller

The Folly of Sending Unripe Honey to Market
By R. A. Burnett

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By J. L. Hyde

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Gleanings and the Bee-Keepers' Review one year	$1.75
Gleanings six months trial	.25
Gleanings one year and Red Clover Italian Queen—July	1.50
Gleanings one year and the A B C of Bee Culture, postpaid	2.00
Gleanings one year and Langstroth Revised, postpaid	2.00
Gleanings one year and "How to Keep Bees" postpaid	1.75
Gleanings one year and Standard Corneil Smoker, postpaid	1.85

Regular prices, $1.00 per year. Foreign postage, 48c per year extra. Gleanings is found in every club list.

THE A. I. ROOT CO., MEDINA, OHIO

AUGUST, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

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Flint, Michigan, Aug. 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

A RECORD.

An imported queen received Aug. 15, 1904, has this season, up to date (July 15th, '05), produced almost 200 lbs. of extracted honey. She has the largest colony, the gentlest bees and the greatest hustlers I ever saw. Just think of the long journey, and then to accomplish such results. You can have queens from her for 75c, untested; and $2.00, tested.

The Wood Bee Hive and Box Co.,

Lansing, Mich.

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates), and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	105
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	205
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.	130	W. Va....	178
Iowa..	800	N. H. .	158	Wash ...	122
				Wis.....	620

W. Z. HUTCHINSON, Flint, Mich.

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y

QUEENS

We have secured the services of one of the best Queen specialists in the U. S. Over 30 years experience raising Queens. Our yard is stocked with select breeders from the best yards in America, and can send Queens by return mail.

Prices to Sept. 1, 1905.

Untested Queens	$ .75
Select Untested Queens	1.00
Tested Queens	1.50
Select Tested Queens	2.50

GRIGGS BROS.

521 Griggs Block
TOLEDO, - - OHIO.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

W. T. Falconer Mfg. Co.,

JAMESTOWN, N. Y.

☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N. H., carries a full line of our goods at catalog prices Order of him and save freight

You Need Them Now = Shipping Cases.

Made with cover all in one piece and in any width, up to 13 inches, of the best material obtainable for the purpose, in a factory thoroughly equipped to do the best class of work. On account of our near location to the raw material district, we sell them for less money than you obtain them elsewhere. Be sure to mention the width desired and write TODAY. All we want is your first trial order. We will naturally get your other trade.

DOLL'S BEE SUPPLY MFG. CO.,

Power Bldg. Minneapolis, Minn.

$5 a ton

is what the farmer in the Arkansas Valley of Eastern Colorado gets for all the

Sugar Beets

he can raise.

Santa Fe

If interested, ask Wm. Nicholson, Gen. Colonization Agent, A. T. & S. F Ry., 1117 Railway Exchange, Chicago.

Italian Queens!

Either Golden or Honey Queens after July 1.

Our **Goldens** will come up with any other Golden strain. Our **Honey-Queens** are what some breeders call "Red Clover Queens."

	1	6	12
Untested..	$ .75	$ 5.00	$ 7.00
Tested (or warranted tested)	1.25	7.00	13.00
Breeders	5.00	....	.....
2 frame Nuclei (no queen)..	2 00	11.00	22 00

When Queens are wanted with Nuclei add price of any queen wanted. We guarantee safe arrival of Queens and Nuclei. Our breeders may be returned after 30 days if satisfaction is not given. Cash must come with all orders.

D. J. BLOCHER, = Pearl City, Ill.

LEARN TELEGRAPHY and R. R. ACCOUNTING.

$50 to $100 per month salary assured our graduates under bond. You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials. **Operators always in demand.** Ladies also admitted, Write for catalogue.

MORSE SCHOOL OF TELEGRAPHY.

Cincinnati, O., Buffalo, N. Y., Atlanta, Ga., La Crosse, Wis., Texarkana, Tex., San Francisco, Calif. 8-05-4t

Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Untested, 75c each; six, $4.00; 1 doz., $7.50. Select Untested, $1.00 each; six, $5.00; 1 doz., $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

Page & Lyon

Mfg. Company

New London, Wis.

Will furnish Hives and Sections of Perfect Workmanship and material. By sending your order now you will save money, and secure prompt shipment. Send for 1905 Catalogue and Illustrated Price Dist— free for the asking.

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases. Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

1-'05-tf

HONEY QUEENS

LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians, Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

W. H. Laws, Beeville, Tex.

"DADANT'S FOUNDATION"

IT EXCELS.

We Guarantee Satisfaction.

BEE=SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

A. G. Woodman, Grand Rapids,
Agents for Michigan.

DADANT & SONS, Hamilton, Ill.

STANDARD BRED QUEENS.

BUCKEYE STRAIN RED CLOVER, GOLDEN ITALIANS

By Return Mail. Safe Arrival Guaranteed.

PRICES.	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9 00
Tested	1.50	8 00	15.00
Select Tested	2.00	10 00	18.00

Select Breeders, each $3.00
Two-frame Nucleus and Red Clover Queen 3.00

THE FRED W. MUTH CO.,

No. 51 WALNUT ST., CINCINNATI, OHIO.



Covered Wagon for use as Extracting Room at Out-Apiaries.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor

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How one Californian Keeps Bees in Large Numbers.

M. H. MENDELSON.

TO succeed in keeping bees in large numbers, a man ought to have a thorough knowledge of the business. He should have system, and order, and be resourceful, mechanical and inventive. He must be patient and persevering and have a determination to succeed regardless of difficulties; for there are many draw backs in bee-keeping in California—bad years, and many short years. The past ten years have been mostly failures for lack of rainfall, which have been quite discouraging to many producers.

I started with about 200 colonies, increased to 500, and had to look for new territory, for my increasing business.

When I had only one or two apiaries, it was an easy matter to get my bees in prime condition for a honey harvest. I did the work mostly alone, excepting in swarming and extracting time, when I hired help for the time being. As my bees increased I was compelled to get additional ranges and assistants; and when the bulk of work was over I generally let all help go, and I did the balance of labor for the season, but now I shall be compelled to get permanent assistance.

In starting out-apiaries, new conditions were contended with. It was an experiment and a costly one. Bad years would change plans, and there were discouragements, success and hope deferred.

In managing *one* apiary, in bad years, profitable side-issues would assist me out, as I was handy with carpenter's tools, and tinner's tools, and adapted myself to various kinds of work; but the most of this spare time was spent working in the best stores.

My increased business prevents me from giving my entire personal attention to each individual colony, as well

as I did with the few, and to realize the best results, it requires active, skilled assistance. It is necessary to have knowledge of the requisites of a good bee range in each locality. In my section, I desire, in spring, the willow, cotton wood, alfilaria, an abundance of wild flowers, to build the colonies. The wild alfalfa, black and purple sages (the white sage is not to be depended upon) and wild buckwheat and other fall flowers to keep up brood rearing, to have plenty of young bees for the winter. There are good ranges here with only part of the above forage, but conditions are also different. Good water is a necessity; and where water is scarce, then large rain water tanks are a necessity, and good, painted roofs and plenty of rain fall to fill them; calculating, from two to four barrels of water per day in the heat of the season.

Out-apiaries should be concentrated as much as possible, but avoid overlapping the flight of the bees. If possible all out apiaries should verge to the center, or the home apiary, but this cannot be always accomplished.

A line of apiaries could be located closer when in a *circle*, providing one had control of each side-territory for three or four miles, but it is much better not to overlap, and thus shorten the flight of the bees. *This is important.* Locating apiaries only one-half to a mile apart, lessens production.

My apiaries are mainly located on the north side of the mountains. Two of them have the advantage of both the north and south sides; the south side commencing to bloom first, the north side holding out longer, as the moisture is retained longer by means of the shade of the mountains. These apiaries are located down low and it's easy for the bees to sail *down* with their loads to the hives.

Two hundred colonies, spring count, give the best results, for an apiary. Not any apiary with 500 to 700, spring count, can give as good results; the bees have to fly too far; and the confusion of flight, and of swarms, are great and unprofitable compared to the limited spring count.

The home-apiary should contain all necessary appliances for general work; the best of tools, a commodious warehouse, a shop, extracting house, a commodious fumigating house, so as to prevent all spare combs from being destroyed by moth; and all of the above buildings should be *positively* mouse, rat, bee and moth proof. Avoid *bearings* for mice and rats to reach, and they will not gnaw through underneath your floors. Screened windows and doors are a convenience; then keep them *closed*. Floors of buildings should be elevated to let in the light and wind.

Gophers will fill in with soil under *low* floors, and wood rats will fill up with rubbish, and gnaw through.

These wood rats are the worst pests to contend with. They are destructive to hives and frames; and will carry off everything they can move, even to the worst filth. They carry off frame-stuff, knives and forks, spoons, nails, etc., and surround their nests as a protection. Having a keg of nails, I wished to use some, but the keg was minus the nails. I found the nails in the nest rusted together.

Each apiary, if large, should contain a complete extracting outfit.

I have just completed an extracting outfit on wheels. It is complete as can be made. I shall use this in the bean field and in the hills with small apiaries; still, my apiaries are not very small. Nearly all of my apiaries have complete extracting outfits. With this extracting wagon, I can drive up to each apiary and go right to work with out loss of time and when through drive to another.

The advantage of a complete outfit for each apiary, is, that should a heavy flow come at any time, it is possible to keep going at the same time.

A wagon could not get around in time to give room for the bees. But these heavy flows, of late years, are few and far between. In fact, we have not had a *heavy* flow for many years. It was slow enough to keep up with the bees, but how about flows I have seen here when bees have filled up a two and three story 10-frame hive in three days, and it has been common to fill up in five to six days, and crowd all the brood out. I have lost enough in such flows to pay for many complete outfits. An extracting from *one* apiary, amounting to six tons, was lost, through such a flow. That was in the 80's. I should mention that this extracting wagon is intended to haul bees, too, for it is thoroughly screened, and should any carelessness occur, not *any* bees could reach the horses.

A good two-horse, 2,500 to two-ton, market wagon is required for hauling hives, utensils, cans, cases, honey, etc., in visiting apiaries; one with a side rack and end gates. This is a great convenience as it prevents the racking and marring of hives, as well as a saving of time from binding up loads. Economy in labor and time is money made, providing it is properly applied by *honest* helpers.

In the near future I shall connect my largest apiaries by telephone, so as to economize in time from needless visits, and otherwise. I have had part of the wire on hand for two years. All large apiaries should have (during the honey harvest) a man at each, and more if the flow requires them. The number of swarms lost here from the lack of a man to care for them has been great. Also, these same lost swarms occupy your territory to your detriment, for they increase every good year.

It has paid me to have my hives made at the mill. It is cheaper than buying expensive machinery, as there is a limit to the number of hives needed. What I pay out for sawing and planing would not pay for the machinery, let alone the time consumed in sawing, and running chances of having fingers and hands amputated.

I have better results from natural swarming, providing I have competent assistance. Swarms work with a greater vigor, but I try to avoid swarming if possible.

For the past few years, extracted honey has paid much the best, for the reason of slow honey flows and short seasons; and, also, so much unsightly comb honey put on the market, badly graded, that prices of comb honey are too low for profit. Extracted sage honey, by the car, has been sold for 6½ cts. and, later, would have brought 7c. In good honey years comb in car lots, has sold for only 6c, although this was not up to the best quality, yet it effected quotations. Small producers have also affected prices. Bees were run by let alone methods. They had no bee journals to post them on market prices, and took what they could get. Very inferior, bad flavored grades of honey are put into sections. These low grades help lessen consumption. This should be in the extracted form for manufacturing purposes, and would net the producer more in quantity and better and more profitable results.

Extracted honey tanks, properly made, are of importance. They should be of galvanized iron and cone top with man-hole, good lid, and ventilated, and the capacity should be (in California) from three to seven tons to the hundred colonies, spring count.

So much room gives time for honey to settle and clear from bubbles and small particles of cappings; although I believe and practice ripening my honey before extracting. It will still increase in body and flavor, when standing in these tanks, with the tanks exposed to the sun. Well ripened, and good flavored honey is hard to imitate by adulteration. Extra tankage room is a

convenience for the reason that *we can not always get cans on time* in a heavy honey flow. I lost in one apiary one good extracting, by not being able to get cans in time, which would have amounted to six tons; besides the loss of the working force by bees crowding the brood out.

Cloth tops to honey tanks are a failure with me. They do not prevent vermin and dust from getting in, and whatever evaporation is gained during the day, is partially lost during wet, dewy nights.

We have no winter problem; 40 to 50 or more pounds of honey left in a hive at the close of the extracting season, will put the bees through the winter with plenty of young bees and strong in numbers. Colonies left with only 15 to 20 pounds of honey do not breed up so strong for the winter, and come through in a weakened condition.

All particles of wax, such as brace and burr combs should be cared for. My annual scrapings of wax are sufficient to pay a man's salary for a number of months. The wax wasted in California amounts to many tons; but, of late years, a small percentage is saved.

A good sun extractor is a necessity, and, if properly made, will pay for itself many times over. I have tested them thoroughly. The slumgum should be taken (while hot) from the sun extractor and packed into moth proof boxes until such time as convenient to heat and press out by a wax press. A good wax press is also a necessity to a well-equipped apiary. If properly constructed it will give profitable results.

Slum gum contains from 25 to 45 per cent. of wax, and comb contains from 60 to 85 per cent. of beeswax. This is worth considering.

Years ago, previous to the use of the press, my slum gum was used for fuel, and, as the old comb was only partially rendered, I lost tons of wax. The refuse, from the press, when dried, makes the best fuel—the heat from it is intense.

Apiaries should be on gradual, sloping grounds. That is my preference; for I can lay out the grounds to the least confusion of bees, but level grounds are good, if there are sufficient and varied vegetation or trees to break the monotony. I prefer the extracting house at the lower side, with plenty of fall for free flow of thick honey through three-inch pipes to tanks below.

A well-equipped apiary should contain the following with the buildings mentioned in the fore part of this article :

Three large, galvanized, cone-top tanks for different grades of honey, size of tanks acccording to size of apiary.

One 4-to-8-frame Cowan reversible extractor.

One 10-to-15-gallon strainer.

One galvanized uncapping box, capacity sufficient to hold the cappings of at least one good extracting.

Three Daisy wheelbarrows with carrying boxes for the barrows.

Bee brushes in plenty.

Two 3-to-4-inch painter's scrapers.

Three of Root's improved uncapping knives. These knives are the best I have seen.

One capping knife heater.

Three or four Corneil improved smokers; these surpass any smoker I have ever used for service and durability.

One good broom in each building.

One good mop and requisites to keep all clean.

Some carpenters' tools.

Two No. 3 soldering irons and solder and resin and muriatic acid, small pieces of zinc waste for reducing acid.

One pair tin-shears and other tools if desired.

It is not necessary to have an extensive equipment for small apiaries, and

a person can equip according to his means. One handy with the tools can save many a dollar in case of an emergency, and if too far from a mechanic.

I shall add a motive power to my extracting room as it will save expense of a man, do more rapid work, and extract combs much cleaner, as I have had honey so thick that hand power could not extract it clean; at least a quarter of it remained in the comb and was returned to the hives.

Work that is not rushing should be set aside for a rainy day so as to keep men from idleness.

Perfect order and cleantiness is absolutely necessary to prevent confusion in a large business. To be neat and clean, will add to sales and retain good customers.

There should be shelter for wagons, utensils, cases and cans.

One of my best ventures, was when I employed skilled men to raise the best of queens, adding greatly to the income. I believe the *results* from a good skilled man, to raise queens, will more than pay for my help.

"Well," said a large producer here, "why all this fuss, and order, and bother, and skill? They don't amount to anything! See our neighbor ——. He gets as good crops per colony as we. Don't fuss with queens. He has not any skill and his bees are not half cared for." This was always taken from spring count, regardless of losses from foul brood, combs destroyed by moth and other losses. His best colonies survived. It was a wonder he had any left. Part of his bees were lost from careless methods and would have brought in good returns; and still brought down the average of the whole by *his* methods.

The above *large* producer, after losing half of his bees since last fall, or within six months, has hired a skilled man to raise queens this coming season. This producer is a skilled mechanic, can rush work, and is going "to do things."

Our greatest problem, in handling large numbers of bees, is in securing reliable and conscientious helpers. Advertising for assistance has not been altogether satisfactory. The majority unconsciously over rate their own ability. They have a limited amount of the theoretical and much less of the practical knowledge. Many have managed small numbers of bees, and worked in a slow fussy manner. They have gotten into a habit, or rut, in doing things, and are *set* in their ideas, causing much loss and worry, at times when the work *should* go like clock work.

In 1903, while I was at an out-apiary for a few days, an old man went to work at forced swarming (at my expense). The result was that part of one apiary was ruined for a honey crop. Many colonies were destroyed. There was brood minus bees, larvae in piles on the bottom boards, and many of the bees departed.

Other helpers were capable, and followed out orders. Skilled men are the best, *even though they are slow*, but an *active*, skilled man is worth a higher salary, for the advanced results derived is a big item. Orders obeyed, and rapid work means advanced salary. Sick, weakly men, cannot stand the work to be done here in a good honey flow. Many sickly men apply for work, not realizing this fact.

A percentage of crop profits would be an encouragement to conscientious helpers and add much to the income. I have had this in consideration for some time. But how are we to get at it? With our varied, and so many short seasons, it is a problem for me to decide. I should be pleased to hear from other producers on this subject; give suggestions and see if we can get at some conclusion. Bees on shares has not always proven satisfactory.

Rent of ranges, high rents, take your

income. My rents run from $0 to $15, $25, $50 and more. If we had a series of good years, our rents would have been greatly advanced. Rents should not be above $25, but on these large ranches, we have to pay higher. I have splendid landlords, men of honor. Poor ranges are dear at any price. A good bee range is worth much more rent, providing we could have a series of good years.

The furthermost range is only three miles from transportation by rail, and 50 miles from ocean steamers.

Ranges should be selected as close as possible to transportation, or the profits will be lost in hauling. It is better to own your ranges, providing you have control of territory, otherwise it is better to rent from large ranch owners who will protect you.

The season of 1904 has been disastrous to many bee men here. The loss of bees has been great, and many have given up the business.

Since I have been in this State I have fed only about 500 lbs. of feed brought from out side resources. One year I fed 9 tons, that was in 1898; since then I have fed about four tons of sun extracted honey, which I set aside for that purpose.

I have always gotten my bees through without much loss.

One neighbor lost 600, out of 1,200, last fall with his warehouse full of honey at that.

The extra amount of bees I have gotten through has always paid well for the expense of extra assistance for a limited time of attention.

VENTURA, Calif., Jan. 6, 1905.

How the Largest Bee-Keeper in the U. S. Manages His Bees.

B. A. HADSELL.

THE time has fully come when, if we expect to compete with other industries and accomplish much, we must get in line and run our business on a large scale.

I received my boyhood education in bee-keeping, in Ohio, nearly 40 years ago. The American Bee Journal was my favorite source of knowledge, and I studied everything to be found on the subject. I, too, invented a movable frame-hive, transferred bees and raised queens; but wintering proved the hardest problem to solve.

Ten years ago I resolved to make a business of bee-keeping, and, after a thorough investigation in the alfalfa valleys in Arizona, I commenced by taking bees on shares, working over store boxes into ten-frame Langstroth hives. After building up the home yard to about 300 colonies I commenced establishing out-apiaries, and now have an even dozen.

I live in the middle of an irrigated valley, one mile and a half wide and twenty miles long, containing about eleven thousand acres in alfalfa, with the river and heavy mesquite on one side, desert and mesquite on the other.

My farthest out-apiaries are ten miles east and ten miles west of home. Myself, or other bee-men, have apiaries of 100 to 200 colonies every mile or less, throughout this valley. We usually buy an acre or more on which to place our apiary, or else pay a rent of 60 to 180 pounds of honey a year.

As this valley carries about 18,000 head of cattle, including a large dairy interest, the alfalfa is mowed before it yields much honey, or else kept down by the dairy herds. The mesquite is frequently cut short by a week of windy weather while in bloom. Our valley is, therefore, heavily overstocked with bees.

Alfalfa is the most regular honey plant of the arid West, although it does not produce honey from the first crop in the spring, nor late in the fall, nor in damp climates, so I am told. In the arid West, if allowed to bloom during the hot weather, and, especially if left for a seed-crop, it yields, abundantly, a good quantity of amber honey. Mesquite and cat-claw, native brush in the arid West, yield a very light colored and mild flavored honey far superior to the alfalfa honey for table use.

It pays to plant willow and other honey producing trees along the ditches, fences and road side.

THE NECESSITY FOR SHADE IN THE ARID WEST.

I set my hives close together, in straight rows, on a border of dirt a few inches high, and facing out, with room to pass between with a wheelbarrow. It is very important that the row should extend east and west, as all hives must be shaded in summer to keep the combs from melting. As the sun is low in the horizon during the winter season it will shine under a brush shed, keeping the bees warm; while the sun passing over head in summer will be shut off by the shed.

I make my sheds entirely of posts, fence wire and brush, leaving room under one end for extracting.

I find it much the cheapest to select second-class lumber at $35 a thousand; get our pianing mill to rip it the proper width, then give the job of making the hives to a cheap carpenter. Family and farm hands make the frames. We also make our own foundation, putting full sheets in loose-hanging, wired frames.

My supers and brood-chambers are interchangable, and so are the tops and bottoms. The front end of the hives is ⅜ of an inch narrower to give a bee space. The entrance to the super is stopped up for winter. The family, or farm-help, also paint the hives, tacking tin over any knot liable to drop out.

As the bees are flying all winter, they probably consume more honey than bees in the Northern States. They are left with their supers on, sitting upon their summer stands.

I run my thirteen apiaries all for extracted honey, putting it up in 60-pound cans. If conditions are favorable for a big honey flow early, I commence feeding to stimulate breeding, and spread the brood as fast as the bees can cover it. As soon as there are signs of swarming, I take brood from them for increase; also practice "shook-swarming" to some extent.

If a strong swarm is made, and allowed to raise a queen, the first one that hatches is almost sure to come out with a swarm, which I avoid by dividing; giving each a caged cell before the 14th day from the time the swarm was made. In this way I hold back and keep down natural swarming until the honey flow starts in earnest, when the bees are ready to give up swarming and devote their attention to storing honey.

Before this we visit the apiaries frequently, going on horse back, with bicycles, buggy or spring wagon.

I use a four-frame Cowan extractor, hauling it, together with camping outfit, from shed to shed. A farm-hand follows up to haul home the honey. In case the bees bother, I set up a tent to extract under. A honey-house screened in on a wagon would be better. I hire one or two hands at $30 per month, and Mexicans at a dollar a day. My three

daughters being the fastest for uncapping, and other light work, it saves that many dollars per day.

I let no bees out on shares, as that would be starting competitors. I sell six tons of my best honey anually to my home-trade.

When too busy to raise queens, I order from other breeders to replace those that are not doing good work.

In connection with the bee-business, I have an alfalfa ranch of 120 acres, on which I carry 200 head of stock. I usually mow the first crop of alfalfa before the extracting commences. The stock take care of the alfalfa the rest of the year. In this way I have steady work for hired help the year around. I haul my alfalfa honey, with four- or six-horse teams, 35 miles, and ship it in car load lots.

BUCKEYE, Arizona, Jan. 11, 1905.

A Veteran's Views Regarding Bee-Keeping as a Bonanza.

JAMES HEDDON.

FRIEND HUTCHINSON, not in many a day have I read in the Review a brighter contribution than the one on pages 212 and 213, under your caption of "A red hot letter." The writer writes clearly and to the point, and there is no more fog connected with his opinions than with his manner of expressing them.

Reference to back numbers of the American Bee Journal and Gleanings will remind you that the "burning" truths your correspondent refers to, were burning and discovered many years ago. I well remember one writer who, after extolling the get-rich-quick profits of bee-keeping was reminded that a truth might be told so many times that it would become a falsehood. Once there was a good profit in honey production, but the big supply dealers had to have it, and with their journals of wide circulation, they soon transferred it from the producing class to the middle men; and it was done by the same old road.

I have no longer any personal dollar and cent interest in it, as the unknown brood disease has reduced me, within two years, to only 17 colonies. From Washington, (Prof. Frank Benton proprietor) I received a circular letter inquiring as to whether I had any disease in my apiary; and then, very appropriately (I thought) I wrote to the great Prof. all about my experiences and observations relating to the disease mentioned above, but just as I expected I received no reply; no doubt because the Prof.'s bureau doesn't contain any information on the subject. The Prof. is too busy counting the stripes on a yellow-jacket just discovered by a Hottentot in Timbuctoo. The "Prof." and his Washington "Bureau," are a unique pair. There is nothing common place about the whole business, except the salary, which is pretty small, their being so many things the Prof. needs. Let us all petition Congress to raise that salary.

SOME EXPERIENCE WITH BLACK BROOD.

Concerning the disease in question, supposed by some to be "Black Brood" (whatever that is) I discover nothing *black* about it. Of course it is *not* foul brood; however, it depletes the diseased

colonies faster, but I think, is not so contagious. It seems to strike the colonies almost exclusively, early in spring, say March and April, and they run down rapidly. I am looking for it to pass on, leaving the wreck free from germs; but I am not trusting to that theory, as I am keeping over 200 sets of hives and combs carefully away and apart from any that have been out of doors since the disease struck my yard.

WANTS TO KNOW WHERE THE FISH BITE.

I have just returned from a fishing excursion in the northwestern part of Wisconsin, (Chetek, Barron Co.) and I did not see any of the big Wisconsin woods, "thickly studded with basswood," that we read about. We found excellent angling, on beautiful waters, but didn't see the basswoods we looked for while railroading over the "Northwestern" by daylight. I wish I could get a flood of letters from your Wisconsin subscribers, each vying with the other in describing excellent angling streams and lakes, not overrun with visiting fishermen; a nice, quiet place, where a row boat easily reaches the best grounds. I will gladly reward any Bro. bee-keeper or angler who will direct me to a good boarding house, close to a water teeming with black bass; muskallunge, in addition, gladly accepted. In exchange, I might be able to show him something new and acceptable in fishing tackle, if not in practical bee-keeping. Least ways, we could enjoy some good bee talks when the fish didn't bite good. Who can and will give me the desired information?

DOWAGIAC, Mich., July 21, '05.

Some Hints on Locating and Managing Out-Yards.

D. E. LHOMMEDIEU.

YOU ask for some hints in the "spreading out business." Well, as I now have six yards, I will say:

1st. One needs to study up the honey out-look most thoroughly, as locations vary greatly in going even two or three miles here in central Iowa.

2nd. After the location is determined upon, the next thing in order is to be careful in choosing the *man* or *family*; if there are wind breaks, shade, suitable room, a cellar, or chance to build cave, then "approach the home." It may take more than one trip to get the people over the "scare" of bees. I give one-tenth of the surplus honey, whether it be great or small, to pay for the ground the apiary occupies; in fact, I had rather do so, as then the parties are all interested. I stand ready to move the bees away at any time, but am frequently requested by others to come and "start a yard at their place."

3rd. It is out of the question to run an out yard without some kind of a store house or bee house to work in; and it ought to be right among the bees; 12 x 12 will answer, but 12 x 16 is much better.

4th. I would rather start with 20 to 40 hives and work up to 100, than to move so many bees at once.

5th. Number your bees in each yard; get a small book for each yard and

leave it there. Number the pages of the book to correspond with the hive numbers, and note down the condition, each time you go over the yard, giving the date, etc. If you keep such a book, it will save you hours every time you run over a yard; and you will soon learn from which queen to rear drones and queens.

6th. You will need to adopt some system of management so that bees will not need to be watched in swarming time.

7th. Yards need to be located four to six miles apart, and as near to the home yard as locations will permit.

8th. You, dear reader, if intending to gather some nectar around your locality, will need a good stepping team—one that can haul a load, too, if need be.

COLO, Iowa, Dec. 15, 1904.

How to Make Money with Out-Apiaries in Canada.

A. LAING.

I MAY say, by way of introduction, that I know of no good reason why any wide awake, intelligent, practical apiarist cannot make a success of out-apiaries, providing he has good locations in which to place them. This point, of course, each will have to decide for himself. Further, I know of no obstacles worth mentioning in connection with out-apiaries, to a man who is not afraid of hard work, except swarming; and that means a lot of trouble. Still, this difficulty has been, and is, being surmounted by practical men.

Before starting an out-apiary I would have at least 150 colonies in the home-yard. If it is a good location, I should consider it much better to do a little stimulative feeding, if necessary, in the home-yard, at times when the bees are not gathering sufficient to keep them breeding properly, than to be driving from six to ten miles from once to three times a week throughout the season to look after half a yard of bees at a distance.

Unless men wish to work themselves nearly to death, it will be necessary to go to considerable expense for each yard, so it is best not to be in too big a hurry to start an extra one.

Let us suppose, however, that you have secured your 150 colonies, and wish to establish an out-apiary. The first thing to be decided is the location. This must be carefully selected by looking over the ground to see that you have a plentiful supply of clover, basswood, or other bloom that will be its equal for honey; as well as early and late flowers. Also it is very important that the apiary should be located in a sheltered spot, where the bees can have plenty of shade during the hot summer days.

I consider it advisable to have a written agreement for lease of ground, say for one or two years, with the option of staying five years if you desire. By this arrangement, if you find the locality is not satisfactory, you can leave at the close of the first year or two; if it is good, you have a five years' lease, and the landlord can't kick you out because one of the children get stung. Just here I think it better that the apiary be located a

little distance from the house; say 100 yards, this will reduce to a minimum the danger of trouble with the children. I would not think of locating an out-yard less than three miles distant, and if it can be arranged near an electric car line, or railway station, you will likely find the car or train cheaper than a horse and rig. I have both my out-apiaries located along the railway, and I use the train back and forth, and find it very satisfactory. I think an automobile delivery wagon with which one could move bees and supplies would be the best thing, but, alas, we poor mortals have not the wherewithal.

HAVE A BUILDING AND SET OF TOOLS AT EACH YARD.

Having selected the location I would next proceed to erect a good, firm, substantial building, say, 12 x 16 feet. This, in my judgment, is large enough; and it must be put up in panels throughout, and bolted together, so that, should occasion arise, the whole building could be taken apart, moved several miles, and put up ready for use again.

At each yard I keep a complete set of tools, even to the extractor, and this is almost absolutely necessary, unless one has at least two supers of drawn combs for each hive, as, otherwise, with a single super, the bees will get blocked up with honey, and much time and honey be lost thereby. If one had an abundance of drawn combs one extractor would do for several yards.

USE CHAFF HIVES AND WINTER BEES OUT OF DOORS.

I keep my bees in double-walled hives, and I put on the top packing about the middle of September; and, some years, the last of August; and have never seen them again until April, and I generally find them in good shape. If the hives are placed with the entrances at least 12 inches above the ground, the shoveling of snow away from the entrances will be unnecessary in most locations, unless it be very near spring. My entire loss in my double-walled hives, last winter, with all its terrible cold weather, was only about 20 per cent., and this, mind you, included the loss during the spring from weak and queenless colonies; and a lot of the colonies were in poor shape in the fall, and I never went near the apiary from the first of October until about the first of April; at which time many of the hives were yet in a foot or more of snow. I dug them out, and, in an hour's time, they were flying as though it were July. This proves conclusively, to my mind, that out door wintering is still a grand success. Of course, if one desires to use the single-walled hive, they can do so, and have all sorts of hard work, but, if you want to make a real good thing out of an out-apiary, with practically no disagreeable work, and not much work of *any* kind, put your bees in double-walled, 10-frame hives, with a deep entrance full width of the hive, and you are ready for business.

I say 10-frame hives, because they give stronger colonies, are less likely to swarm, and last, but not least, they seldom require feeding, and this is very important in an out-apiary.

Who shall make the hives? If you are a good mechanic, and can cut lumber to the thirty-second of an inch, make them yourself; if you can't make them right, get them from the supply men, no matter *what* they cost; then paint them and keep them painted so you will never have to replace them.

Just a word further as to the entrance of my hive—the bottom of the hive is on the slant, giving about ⅜ of an inch space under the frames at the back and 1¼ inches at the front. The entrance is flush with the inside wall, and is about an inch deep, and 1¼ inches flush with the outside wall, and full width of hive. I have a tapering

block that just fills this entrance, and, across one side of the block, is cut a long notch, ⅜ x 6 inches, for use as a winter entrance.

On top of the hive, under the cover, I use a five-inch rim covered on the bottom with cotton and filled with fine sawdust.

Now, if my bees have plenty of honey, all I have to do to prepare the hive for the winter, is to slip in my entrance block, and put on my tray of sawdust, and I can prepare 100 colonies for winter in from 3 to 4 hours, with the greatest of ease.

KEEP A MAN AT EACH YARD IN SWARMING TIME.

Now, as to that thorn in the path of the bee-keeper—*The Swarming Problem*—from personal experience, from conversation with expert bee-keepers, and from reading, I have concluded that the best solution of the difficulty, though not the *only* one, is to first select a real good location, one that will carry from 115 to 150 colonies, and then carefully select a young man, or a boy of 17 or 18 years, upon whom you can rely to carry out your instructions to the letter, and put him in charge of your yard. If you have to pay him $1.00 or even $1.25, per day, don't growl; he is well-worth it, for he will look after all your swarms, and extract nearly all your honey at that yard, and you will have very little of either work or worry. You will require this man for two months, and his wages will amount to about $50 or $60, and if he saves eight or ten good swarms from going off to the woods, the bees and the honey will be worth the amount of his wages; and the taking off of the crop you get free of charge, as well as being relieved from several days of the most arduous work destroying queen cells, looking over colonies, etc.

Further, with a man in charge, you are not obliged to have more than one super, as he can extract the honey as soon as it is ripe; thus giving the bees room and keeping them hustling.

As to the securing of increase in this locality, our honey flow is over about the 20th of July, and if all good colonies were divided at that time, and a few barrels of sugar used, an increase of 100 per cent. can be secured very cheaply.

PRODUCE EXTRACTED HONEY.

As to whether you shall produce comb or extracted honey, I would say produce the one that will give you the most money; and 90 times out of 100, with bee-keepers as they run, that means extracted honey.

To produce a fancy article of comb honey requires exceedingly skillful management, and if it is to be produced in out-apiaries I would say it would require the wisdom of a Solomon, and that, I am afraid, the novice, at least, has not got.

HAMILTON, Ont., Can., Jan. 3, 1905.

Editorial

The Western Bee Journal has been sold to Orchard and Farm, a monthly published at San Francisco, and will henceforth be published as an apiarian department of that publication, with Mr. Adelsbach as editor.

Nominations of Candidates for officers to be elected next November by the National Bee-Keepers' Association are now in order. I have received from the General Manager a notice that nominations are to be made for candi-

dates to succeed the following officers, whose terms of office expire January 1, 1906.

President, Jas. U. Harris; Vice President, C. P. Dadant; Secretary, W. Z. Hutchinson; General Manager and Treasurer, N. E. France; Directors, J. M. Hamhaugh, C. A. Hatch and Dr. C. C. Miller.

All members of the National are requested to send their votes on a postal card, or by letter, to N. E. France, Platteville, Wisconsin, thereby expressing their choice of candidates to succeed each of the above mentioned officers. Votes must reach Mr. France by September 20th. The two men receiving the highest number of votes for each respective office will be considered the candidates to be voted for at the annual election in November.

Are You a Bee-Keeper in Michigan?

If so, you should join the Michigan State Bee-Keepers' Association. This Association is not alone for those who make bee-keeping their chief business in life. It is just as anxious to have those who keep a few bees as a hobby or side-issue. The Association can help you. Those who make it their chief business got their start much the same way as you got yours. The Annual Conventions are practical, instructive, and fraternal in spirit. Outside of the regularly prepared program, the exchange of ideas of one bee-keeper with another, perhaps several together, is worth the whole trip to the Convention. You meet men there who stand high in the business of bee-keeping, men whose names you are familiar with in the journals.

The Association is helping the bee-keeper to sell his honey. It is getting out 5,000 booklets giving the names and addresses of its members, together with the kind and quantity of honey each has to sell, sending the booklet out to leading grocers and buyers of honey, thereby creating a larger demand; and the logical outcome will be better prices.

If you are a bee-keeper in Michigan you cannot afford *not* to belong to the Michigan State Bee-Keepers' Association. Send one dollar to the acting Secretary, E. M. Hunt, Bell Branch, Mich., and this will also make you a member of the National Association with its report and protection of your interests.

Some Suggestions Regarding Candidates for Office in the National.

In another column will be found a call for votes to nominate candidates for election to office in the National Association. I know there are a few in our ranks who are opposed to any discussion regarding the merits or choice of possible candidates, but I do not agree with those views. I think nothing should be published that would wound the feelings of any present officer, or any possible candidate, but the good points of possible candidates can be pointed out without doing this; and I am going to show you how it may be done.

First is the office of President. The man who occupied the chair last year at St. Louis, Mr. Jas. U. Harris, of Grand Junction, Colo., is one of the best presiding officers we ever had—perhaps the *best*—but, for many years, we have been following the plan of giving the President two terms, and then passing the honor on to some one else—usually to the Vice President. If this practice is continued, it will place in the chair for the next two years, the present Vice President, Mr. C. P. Dadant, of Hamilton, Ills. For this reason, I shall vote for Mr. Dadant as our next President. As a candidate for Vice President, I shall vote for Mr. Geo. E. Hilton, of Fremont, Michigan. Mr. Hilton is a man of fine ad-

dress and pleasing manner, well versed in parliamentary usages, from having passed several terms in our Legislature. That he makes a model presiding officer I know from having seen him in the chair at our Michigan State conventions.

As a successor to myself as Secretary, I shall take pleasure in voting for Jas. A. Green, of Grand Junction, Colo. Mr. Green is a practical bee-keeper, knowing well what will be of interest to that class. He is also a good scholar, and a fine penman, and would, I believe, make an ideal Secretary.

It is doubtful if we ever secure a better General Manager than the present incumbent, Mr. N. E. France, of Platteville, Wisconsin, but, as an opposition candidate, I would suggest Mr. Frank Rauchfuss, of Denver, Colo. Mr. Rauchfuss is well educated, energetic, a good organizer, and he has had a lot of experience in this line as Manager of the Colorado Honey Producers' Association. I don't care to see the office pass out of the hands of Mr. France, but, if it should go, I can think of no one to whom I would sooner see it go than to Mr. Rauchfuss.

As a possible successor to Mr. J. M. Hambaugh, of San Marcos, of Calif., I would suggest the name of Mr. M. H. Mendelson, of Ventura, Calif. Mr. Mendelson has had years of experience as a bee-keeper upon a large scale, and would, I am satisfied, work unselfishly for the good of the Association.

As a candidate for the position of Director, for Wisconsin, to take the place of C. A. Hatch, of Richland Center, I would suggest Mr. Fanklin Wilcox, of Mauston. Mr. Wilcox has had years of experience not only in the apiary, but in attending exhibitions, associations, etc., and is well-stocked with good common sense.

To succeed Dr. C. C. Miller, of Marengo, Ills., as Director, I would suggest Mr. M. M. Baldridge, of St. Charles, Ill. Mr. Baldridge, like Mr. Wilcox, has had years of experience, in the apiary, and in attending conventions, and is well known as a bright, shrewd, well-informed man, who would do his best in the interests of producers.

Now then, having made these suggestions, let me say that they are no reflection, whatever, upon the present officers whose terms expire with the year. I don't know that any fault has been found with them, and they will all be re-elected, for ought that I know, but, as to their *possible* successors, I have made up a "slate," and if anybody wishes to make up a different one, the columns of the Review will be found open for its publication.

I might add that I have not consulted with any of the men whom I have suggested as candidates, and don't know whether they would accept or not.

Apiarian Exhibits at Fairs,

For 15 years I did not miss making an annual exhibit of bees and honey at our State fair; and, for three or four years, I also made exhibits at the State fairs of Indiana, Wisconsin, Illinois and Missouri. It will not pay to travel from State to State with an exhibit unless the exhibit is unusually large and attractive—enough so as to win the lion's share of the premiums. On the other hand, it will not pay to get up a large, expensive exhibit, unless it is to be exhibited at several fairs. In order to thus make a "circuit" of several State fairs, it is necessary to charter a freight car, and travel with the exhibit. In no other way is it possible to avoid fatal delays at transfer points. The work is terribly hard; there is the packing up at night, and travelling nights in a freight car, the "hurrah boys" of getting upon the grounds and the exhibit set up in time, and the friendly rivalry with competitors, but there is a fascin-

ation about it that, to an old exhibitor, is almost irresistible.

There has been, in times past, some opposition to these apiarian exhibits, on the ground that they were often made by supply dealers who, in their eagerness to do business, did not hesitate to urge a man to become a bee-keeper, in order to effect a sale. If the fruit of the seed sown at these gatherings *were* a crop of producers, I might admit that, possibly, there would be some injury to existing bee-keepers, but, after the experience that I have had, I am thoroughly convinced that nothing of the kind occurs; in fact, the exhibition of hives, implements, and large quantities of honey tastily put up, impresses the crowd with the true importance, magnitude and complexity of modern bee culture; imparting the idea that the bee business is quite a business—one that cannot be picked up and learned in a day by some Tom, Dick or Harry.

Anything that increases the consumption of honey is a benefit to the pursuit; and, as usually managed, these bee and honey shows call the attention of crowds of people to the excellence and deliciousness of honey as a food; and the producer and consumer are bought face to face. At a fair, people are abroad with a disposition for sight-seeing, investigation, and the purchase of novelties and nick-nacks; and a fine display of honey, together with its sale in fancy packages, can not help benefiting the exhibitor as well as the pursuit. Honey to be sold at fairs ought to be put up in small packages. It may be difficult to put it up in packages so small as to be sold at five cents each, but I believe it has been done, while there has been no difficulty in putting honey in packages that may be sold for 20 or 25 cents each. People at fairs don't wish to be burdened with heavy or bulky packages, and the honey must be put up in such shape that it can be eaten on the grounds, or else carried in the pocket or hand bag with no danger of leakage. I remember that, one year, at the Michigan State fair, Mr. H. D. Cutting sold nearly $40 worth of honey put up in pound and half-pound, square, glass bottles and in glass pails. One year, at the Detroit Exposition, at least 1,500 pounds of "honey jumbles" were sold at a cent apiece, by three exhibitors in the bee and honey department. These "jumbles" are made with honey instead of sugar, and, for this reason, retain the desired amount of moisture for a long time. In selling them at a fair a box of them is opened, placed upon the counter, and tipped slightly outwards, so the visitors can easily look into it. The cakes are round with a hole in the middle, and the upper side is of a golden yellow, with a sort of granular appearance that is very inviting. This side of the cake is turned uppermost. Paper sacks are filled with cakes, putting five in a sack, and a neat placard announces: "Honey Jumbles; Made with Honey Instead of Sugar. Five in a Sack and Five Cents a Sack." Another thing that may be sold at an apiarian exhibit with even greater profit than the honey jumbles, is honey lemonade—if the weather is hot, if it isn't, there is no use of attempting its sale. Here is the way to make it: Into 12 quarts of water squeeze the juice of a dozen lemons, add two pounds of basswood honey and a teacupful of sugar. Basswood honey being of such a strong flavor, gives more of a honey flavor. Keep the lemonade cool with ice in some large vessel. I used a stone ware churn. Keep on the counter a glass pitcher filled with lemonade, putting in small pieces of ice, also a a few slices of lemon. Then have a placard read: "Honey lemonade: Most Delicious Drink on the Grounds; Only Five Cents a Glass." I have sold as high as $20 worth of this in one hot afternoon, and the profits are at

least three-fourths. Such exhibitions and sales certainly do the pursuit of bee-keeping no harm, while they bring a profit to the exhibitor.

Neither ought the social feature to be overlooked. Every bee-keeper attending the fair hunts up the "Bee and Honey Department," and only one who has been at an exhibition knows of the many new acquaintances thus formed, and the old ones that are renewed. It is well to have one day set apart as "Bee-Keepers' Day," giving the date in advance in all of the bee journals. Then all bee-keepers will be present on the same day. When possible to do so, it is an excellent plan for two or three, or more, exhibitors to club together and take a tent, or a portable house, each bringing his share of bedding, provisions and utensils, and live *a la* picnic during the fair. Some of the happiest hours of my life have been spent in going through just such experiences with boon companions.

I doubt very much if the exhibition of bees at fairs is any great advantage to the pursuit. The most that can be said in its favor is that they attract attention. There is certainly no necessity of exhibiting full colonies, unless it might be at some permanent exhibition that is to last several months, when the bees can be allowed to fly *a la* house apiary, provided the apiarian department is on the second floor. A single-comb nucleus with a queen and a few drones and workers, together with the brood in different stages of development, can be made to show more that is really interesting than can be shown with a full colony.

Of course it is impossible to goon and cover, in detail, all the points in regard to the planning and putting up of an apiarian display, as circumstances vary greatly, but here are a few hints: Extracted honey should be shown in glass. Not in common green glass, but in white, flint class. Have tin foil over the corks, and *small*, tasty labels. Aim to get a white, or light colored, background for extracted honey. A dark color gives it a dull, or muddy, appearance. I know of nothing better, or more appropriate, for this purpose, or as a background for any apiarian display, than honey producing plants pressed and mounted on white card boards and the cards tacked upon the wall back of the exhibit. A pyramid of extracted honey in bottles, in front of a window, is a beautiful sight; the light "shimmering and glimmering," as it passes through the bottles and their contents. Comb honey must be in cases with glass next the comb. For several years, I exhibited honey built up into a circular pyramid. First there was made a stout, board wheel, perhaps eight feet in diameter. This was placed perhaps two feet from the floor, being supported by blocks or boxes. Attached to the edge of this wheel, and hanging down, for all the world like a woman's skirt, was a sort of valance made of blue cambric ornamented with some design of gilt paper fastened on with paste. Around the edge of the wheel, upon its upper surface, was set a row of shipping cases of comb honey, with the glass sides turned out. On top of this row was set another row, the cases of this row "breaking joints" with the ones below. Perhaps four rows were placed in this manner, then the cases were turned so that the long way of the cases faced outwards, a fewer number of cases making a row that was slightly smaller than the others, Perhaps four rows were put up in this style, then they were again changed so that the narrow ends were outwards, which again reduced the size of the circle. In this manner the size of the circles was gradually diminished as the pyramid increased in height, until its top was only about two feet across. That these cases might not be jarred out of place they were tastened to one another by means of small wire nails. Upon

the top of this pyramid was set a large number of two-pound, square bottles of honey. On top of the bottles was laid a platform of glass made by putting together two sheets of double strength glass, bound together at the edges with cloth pasted on and covered with gilt paper. Upon the glass platform was set more bottles, then another sheet of glass a little smaller than the first one, and so on up, until a pyramid of extracted honey was constructed upon the pyramid of comb honey, the former being surmounted by a huge boquet of golden rod. I remember building one such pyramid that was 16 feet in height. The spaces between the outer ends of the cases in the comb honey part of the pyramid were filled with small, "dime" bottles of honey. By thus combining the comb and extracted honey display, one "sets off" the other; in fact, my competitors sometimes complained of this, put it was their privilege to have taken advantage of this fact had they so chosen. Mr. M. H. Hunt one year had a castle in which the pillars were cases of comb honey piled up, and the balustrade was formed from panels of beautifully molded beeswax.

There is seldom a fair ground with no bees near it, hence, no honey should be exposed. All honey should be shut up close, and no stickiness left on the outside of the package. Wax should be molded into fanciful shapes—statues, or something of that sort, if the exhibitor has the skill to make them. Fruits, vegetables, ears of corn, and the like, may be made of wax by first making molds, of plaster of Paris, from the objects themselves. It is not necessary that the articles be solid wax. First soak the molds in water, then pour in a small quantity of melted wax, close the molds, and then immediately shake them vigorously while the wax is cooling, thus coating the inside of the molds with wax. When the wax is cool it will come out all in one piece.

Let the beginner not try to show a multiude of things, but let what he does show be as good as it is possible to make it. Competition is so very keen, at least where the premiums are liberal, that it is folly to expect premiums on second-class articles.

A judge should never be compelled to take an exhibitor's word for anything. Let the article exhibited show for itself. Don't offer premiums on samples of different kinds of honey, when they can be so easily gotten up for the occasion by mixing. Don't put at the head of the list such requirements as: "Honey must be of this season's crop;" or, "Must be the product of the exhibitor;" when there is no way of knowing whether they are lived up to or not.

In my experience one man to award the premiums, and he an expert, has given better satisfaction than three judges. It is difficult and expensive to get three men that are experts, and, even then, the work is not always done so conscientiously, because it is not so easy to place the responsibility; each being able to shield himself behind the "other two."

Upon this point of judging, there is one other point often neglected that ought to be printed in connection with the premium list, and that is a "scale of points" for deciding in regard to the merits of exhibits. Particularly is this true in regard to honey. I would suggest the following: Color, 5; body, 5; flavor, 5; comb—straightness, 5; color of cappings, 5; completeness of capping, 5; uniformity, 10; style, 10. Possible number of points, 50. By "uniformity" is meant the closeness of resemblence in the sections composing a specimen. "Style" includes the attractiveness of the section and case; also the absence of propolis.

If a bee-keeper is going to make an exhibit of apiarian products, it often happens that he can also make exhib-

its in other departments of the fair. I have exhibited photographs in the art department, canned fruit in the fruit department, and the wife and children have sent things to their respective departments. In addition to this, when making a "circuit" of the fairs I used to write them up for the Country Gentleman, getting paid for the work. Fairs, come in the fall, after the busy season is over with the bees, and if a man has the time, taste and ability for this kind of work, going from one State to another, as I have done, he can probably clear $10 a day for five or six weeks in the fall. It is scarcely worth while to prepare for the work, however, unless there is some expectation of following it for several years.

Just a few parting words to the beginner: If you make an exhibit at a fair, don't get excited. Keep cool and have patience. Many unpleasant things *may* occur, but don't worry over them; and, above all, don't let the loss of expected premiums so "sour" you as to spoil your own enjoyment and that of your comrades. When you leave home have everything in readiness, as nearly as possible, to put right up. Pack everything carefully, but in such a manner that it can be quickly and easily unpacked. I used to pack the square bottles of honey in boxes furnished with partitions of cellular board, *a la* egg-crate, and, to pack the bottles it was only necessary to drop them into the openings, and nail down the cover. If the package does not indicate its contents, then mark it in some way. Never be compelled to open box after box in an exasperating hunt for something that *must* be had at once. And when the fair is over, don't "go crazy" to get off the grounds the next minute. I have known of men sitting up all night swearing, and sweating, and fuming, because "their car didn't come," or something of that sort, and we all went out on the same train the next morning. At the close of a large fair, an immense amount of goods are on the grounds; they have been several days in accumulating, and it is *impossible* to move them all in an hour's time.

EXTRACTED DEPARTMENT.

FINDING QUEENS.

Some Most Excellent Hints for Doing This Kind of Work.

Finding a queen in a populous colony of blacks or hybrids is a difficult task for a novice, and is often quite a tax upon the skill of a professional bee-keeper. Twice, this season, with a populous colony of hybrids, have I been compelled to give up the job for the time-being. This need not occur very often if the operator understands his business, and the best instructions that I ever saw on the subject come from my old friend Doolittle, and appear in the American Bee Journal of July 6th. Here is what he says:

To find a black or hybrid queen often baffles an expert, to say nothing of the novice. Much care at the beginning is the great secret of success. If possible let the work be done between the hours of 10 a. m. and 2 p. m., when the largest number of field-bees are generally out at work, so that the hive is not congested with bees.

Open the hive slowly without a jar, and use as little smoke as possible. Be very careful not to kill a single bee, for if bees are killed the colony is liable to resent it, this causes so much smoke to be used in quieting them that the whole mass is likely to be "stampeded," under such conditions it

is nearly impossible to find any queen of any race.

Having the hive opened, remove the comb next to the side of the hive nearest you first, and sit on the east side of the hive during the forenoon, and the west side during the afternoon, thus allowing the sunlight to strike the side of the combs next to the operator. As soon as the first comb is examined, set it in a box or empty hive, placing the same on the side farthest from you. On removing the second comb from the hive, glance down upon the side of the comb in the hive which was next to the one you have now raised, before you look at the one you have now in your hands. If the queen is on that side of the comb, she will immediately, upon the strong sunlight striking her, commence to run around the comb to get out of the light. If you do not see her at once (which you will be apt to do if she is there, as the strong light striking against the side of the abdomen as she is running, will arrest your attention as nothing else would), then look on the side of the comb you hold in your hand that is the farthest from you, as the queen is sure to be on one of the dark sides of the combs. If she is not seen here, set this comb in the box up against the one that you put in first.

Proceed in this manner until the frames are taken from the hive and placed in the box, unless you find the the queen sooner. If not found, proceed to look in any corner of the hive wherever you see little clusters of bees, for if the queen is very shy she may leave the combs and run down into the corners of the hive. Not finding the queen in the hive proceed to take the combs from the box in the same order you took them from the hive, and glance the combs over in the same way, and in nine cases out of ten any one should find any queen before the combs are all back in the hive again, even if the colony is composed of black bees in their purity, and the operator is only a novice.

As noted at the beginning, care at the start so as not to stampede the bees, is the great secret of success, and this coupled with a strong light and a knowledge of how any queen behaves under such conditions, gives you the key to the whole matter.

As Mr. Doolittle well-says, the time of the day when the work is done has much to do with the success of the undertaking. Many times this summer, when looking for queens in the middle of the day, I have been struck with the almost deserted appearance of the combs. At least four-fifths of the bees were in the fields. Still further, the majority of the bees remaining in the hive were young bees that are less inclined to run about, take wing, and make a disturbance.

Too much stress can not be placed upon the importance of opening the hive carefully, and with the use of as little smoke as possible. So long as the bees will remain quietly, and evenly distributed over the combs, the search for the queen can be hopefully continued, but once they are "stampeded," begin to run helter skelter, gather in bunches, and upon the sides of the hive, there is only about one chance in 100 that the queen will be found.

Then there is the point of glancing at the side of the outside comb left in the hive, just as soon as a comb is removed, and not waiting to first examine the comb that has been removed. If the queen is on the outside of the next comb to be removed, and we wait to examine the comb just taken out before we give this glance at the next comb, it is just as Bro. Doolittle says, she has scurried around out of sight before we get around to took at this next comb. I presume I have hunted up more than 200 queens this season, in full colonies, and I think it is safe to say that half of them were found in giving this glance quickly at the next comb in the hive.

If care is taken not to disturb the bees and get them to running, there is very little likelihood of the queen leaving the brood combs, hence, in this case, there is no use wasting time in examining frames of honey. The same might be said in a certain degree, regarding combs filled solid full of brood. As a rule you will find the queen on a comb, or that portion of a comb, from which the bees have recently emerged.

If you have Italian bees, know when

to look, where to look, and how to look, the finding of a queen, even in a full colony, is no great task.

HOFFMAN FRAMES.

A Few Words About Handling Them.

Ernest Root copies into Gleanings some of my remarks about the needed ability to space the ordinary, so-called, all-wood frames; also some of my sayings about complications in hive-making. He then makes comment as follows:

If Bro. Hutchinson has an idea that the only merit of the Hoffman frame is regular spacing, then he has failed to see some of its good points. Personally I never had any trouble spacing the old-style Langstroth; but the great mass of small bee-keepers whom I have run across either don't know how far to space them or haven't that mathematical eye. I like a self-spacing frame after the pattern of the Hoffman or full closed end—one that I can handle in twos and threes. I do not like, for example, to have to *finger over each frame* as one has to do with the old-style Langstroth to get the brood nest in proper shape. I have been out working with the bees more this season than usual, and I have not yet used a pry of any sort on our self-spacing frames (I don't mean that a pry is not a convenience and even a necessity when the propolis is cold.)

As to the lock corner of the hives, it certainly makes a stronger joint; and where the hive-bodies are handled roughly or moved to out-yards this is quite an item.

Regarding the hive-covers, we should all like it if we could get back to the old flat cover; but the scarcity of lumber makes this impossible. It is *not* a question of *preference*, but a question of *availability* and *price*. One can, in a small way, perhaps, buy a few wide boards for his own use—wide enough to cover his hives, with a simple cleat at each end; but the big factories can not begin to do it, and are compelled to use three-piece covers. Really I cannot see that the three-piece cover, Hoffman frame, Dovetailed hive, and bottom-board, are any more complicated than Mr. Heddon's divisible-brood-chamber hive with closed-end frames and thumb screws, break-joint slat honey-board, and "drop" bottom-board, which Mr. Hutchinson recommends in his book, "Advanced Bee Culture." If "simplicity" is so important a desideratum, then the Heddon hive (and a good one in my opinion) should be discarded.

It affords me pleasure to have my Bro. editor admit that he has no trouble in spacing the old-style Langstroth frames. I fail to see how any one of ordinary intelligence need have any such trouble. If a man does have trouble, let him do this: Let him carefully space the frames in a hive, and then note the space between them. Let him fix this in his memory and use it as a guide. For instance, my frames are spaced 1½ inches from center to center, and my frames are ⅞ wide, that is, the top bars are that width, which leaves a space of ⅝ between the top bars. When I am putting combs into a hive, I begin at one side and space them ⅝ apart as I am putting them in. I don't put them all in helter skelter, and then even them up afterwards. Of course, I may have to press the last one or two a little closer together before I slip in the last comb, then I press them back into place. The point is, that I have in my mind's eye that ⅝ measure, and use it when putting the frames in the hive, just as the self-spacers would use nails driven into the sides of the frames. Of course, it is not important that the frames be exactly ⅝ apart. They may vary ¼ inch from this. It often happens that the abillty to make this variation is an advantage. With self-spaced frame no variation can be given.

Lock-jointed corners make stronger joints than those that are simply nailed. Iron-bound corners would probably be still stronger, but such strength in a bee hive is wholly unnecessary. If bee-hives were to be used continually for shippinng goods by express, then there would be good reasons for making the joints as strong as possible, but, as a rule, a hive sits

in an apiary the whole of its life time. If it is moved from one apiary to another, or even if sent by express, it is always attached to a solid bottom board which holds it square. If a hive is thoroughly nailed with cement-coated nails of good size, the heart side of the lumber being turned out, it will have all needed strength without any lock-joints, or even any halving of the corners. In my opinion, these dovetailed corners will yet prove a serious objection. It is well known that where timbers exposed to the weather cross each other they are much more liable to decay. For instance, in bridges and sidewalks. In a plain square joint at the corner of a bee hive, the water can easily run down and out. Not so with a dovetailed corner, as half of the surfaces are horizontal, and the grain of the wood crosses at right angles. What I fear is that those dovetailed corners will, in a few years, begin to decay, because of their tendency to absorb and retain moisture. Of course, if they are kept well-painted this will not occur, but the painting of hives is often neglected. To my mind, the making of hives with dovetailed corners is worse than useless expense—it will eventually prove a detriment.

Bro. Root speaks of the advantage of being able to handle Hoffman frames by the twos and threes. In fact, he speaks of this point as being of more importance than the self-spacing feature—at least, I get that idea from the way he writes. I have seen a good many Hoffman frames handled, handled a few myself, and have handled a large number of Heddon frames which allow of this manner of handling, and I must confess that I have seldom seen this manner of handling put into practice to any great extent. If we are handling frames in the production of extracted honey, they certainly must be handled singly. If we are looking for a queen the frames must be handled singly. If we are looking for the queen, and have been setting the frames over into another hive, we can replace them, after *finding* the queen, by taking them in threes if our fingers are long enough and strong enough to stand the strain.

I have never had any difficulty in securing wide boards for covers, but it is quite likely that the factories would have difficulty in finding enough wide lumber for this purpose at a reasonable price, and it is probable that, whether we prefer them or not, we will eventually be compelled to use covers made of several pieces.

This shot about the Heddon hive and complication is a close one, and compels me to reply by "telling tales out of school," if such it might be called. In the new addition of "Advanced Bee Culture, now on the press, the Heddon hive will not be placed at the head. In the last few years, new features have sprung up in Bee-keeping, notably that of "shook-swarming," and a hive that might be desirable in one epoch, is not so in another. When I found myself drifting into bee-keeping again, I noticed that I did not adopt the Heddon hive. When I wrote the chapter on hives, it was quite a wrench to change it over, but I made it conform to my belief and practice.

LOW RATES TO COLORADO.

Via Chicago, Milwaukee & St. Paul Railway.

Only $30.00 Chicago to Colorado and return every day this Summer. Return limit October 31. Two through trains every day from Union Station, Chicago Milwaukee & St. Paul and Union Pacific Line. Leave Chicago 6:05 p.m. arrive Denver 9:30 p.m. next day. Or, leave Chicago 10:25 p.m.. arrive Denver 7:50 a.m. the second day. Descriptive book on Colorado and California sent to any address for six cents postage. Folders free.

R. C. JONES,
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In Dead Earnest

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If I fail to please you it is I who wants you to have your money back more than you yourself, want it.

Are you prepared now to head off Summer Fevers and other diseases that are bound to come as they always have?

You can depend upon *Yellowzones* to do these things for you. And they will often save you from large doctors' bills as from suffering; and *this is no idle tale.*

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Dear Mr. House:—Find one dollar enclosed for **YZ**, for which I thank you in advance.

We have not had a doctor in our house (only for friendly calls) since mother died, nearly seven years ago. The **YZ** are so good they help us out every time. We always have them in the house. I wish I could remember when we got the first box. [It was in 1896.]

Very sincerely yours,

A Dollar Box of YELLOWZONES will put you in shape to head off and cure almost all the ailments that are likely to molest you—and your money returned if not satisfactory. That's a good investment.

Full size box, with vial of Zonets for bowels and liver, $1.00. Trial size 25c.

W. B. HOUSE, M. D., DeTour, Mich.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson. Untested queens, 75c; after June 15, 60c Tested queens, $1.00; after June 15, 75c Selected tested queens, $1.25; after June 15, $1.00.

Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.

Good Queens

and bees cost no more than poor ones. We furnish good ones on short notice. Untested, 75c each; $4.00 for 6; or $7.50 per dozen. Tested, $1.25 each. Breeders, $3.00.

Nuclei, 1-frame, with queen, $1.50; 2-frame, $2.00; 3-frame, $2.50. Absolute satisfaction or no deal We breed six pure races. Price list describing them free. We are agents for the Dittmer comb foundation for this State and sell at Dittmer's prices. If you wish your wax worked into foundation for cash we will receive same and furnish you the foundation from our stock; which will save you much time and freight,

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A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

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—AT—
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BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

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All about Bees. 16-page Weekly. Sample Free. $1 a year; 3 months' Trial Trip, 20c. silver or stamps. Best writers. Oldest bee-paper; illustrated. Dept's for beginners and for women bee-keepers.

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Will save money by using our Foot Power Saw in making their hives. sections and boxes.

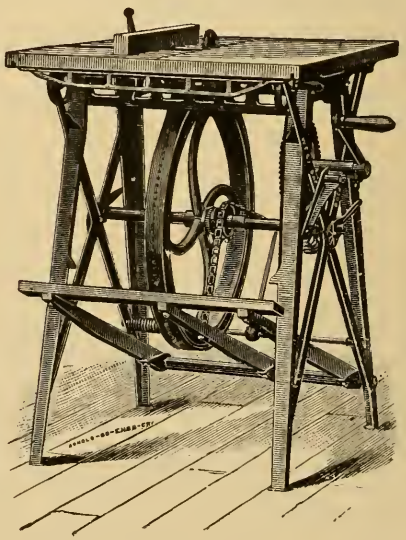
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8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with order of $10.00. Send for free list.

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ITALIAN QUEENS

Untested, 50 cents each, tested, 75 cents each; Carniolan queens, same price. Bankston baby nucleus hive nailed ready for use, by mail, 35 cts.; nursery cage, by mail, 35 cts. Send for circular. Full instructions are sent showing how to operate the new Queen Rearing outfit.

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300,000 Acres of Wild Land for sale, in the Famous Fruit Belt Region of Michigan, at low prices and on easy terms.

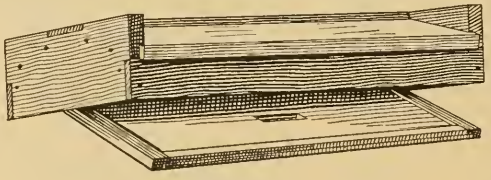
These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars. "No trouble to answer letters."

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COLORADO HIVE COVER.

SATISFACTION

To the bees and SATISFACTION to the bee-keeper is the aim and object of the manufacturer whose name appears with this ad.

The Colorado Cover is a double cover with air space—the outside cover is made from full ⅞ inch white pine. It cannot leak, it cannot warp, it retains the heat of the colony so necessary in early spring, and it is impenetrable to heat in the hottest climate.

PRICE—1 nailed—40c. 10 in flat $3.00.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

Flint, Mich., Apr. 17, '05.

Friend Putnam:—

Yours saying that you would send the sections in a few days is here. Thank you.

Ever since nailing up those hives, I have felt like writing and thanking you for the excellent material and workmanship. The lumber is practically clear lumber, and the workmanship simply perfect—everything smooth and accurate. If every shipment that you send out is like this, you will eventually have more business than you can look after.

Yours Truly,

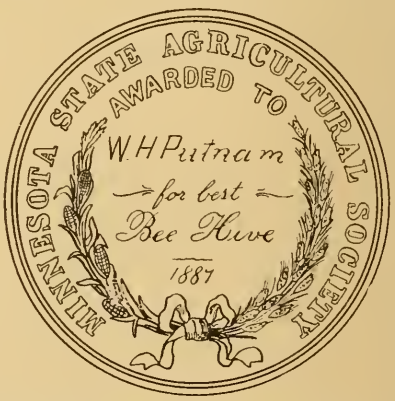
W. Z. HUTCHINSON.

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Now is the time to make plans for 1906. Our plan is to establish a branch house at every country town. Write for particulars.

The Rural Bee-Keeper better than ever this year. Write for sample copy.

Join our EXCURSION PARTY to San Antonio, Texas. Leaves Chicago, Oct. 25th, Round trip $20.00.



The RUSH season is over. We have a good supply of Standard Goods on hand. We cater to the trade that demands QUALITY. We give value received and PROMPT SHIPMENT.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

NEW YORK—No demand for comb honey. Extracted in fairly good demand with ample supply. We quote as follows: Fancy white 13c; No. 1, 12c; fancy amber, 10 to 11c; No. 1, 10c; White, extracted, 6½ to 7c; amber, 5½c; dark, 5c; beeswax, 28 to 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
June 11, 1905. New York.

CINCINNATI—We sold today, at our store, new crop fancy comb honey, at 13½c per pound. There is still a big stock of last season's honey on the market, that is going begging at any price. Extracted honey is moving quite lively now. We sell amber honey in barrels at 5¼ to 6½c, according to quality. White clover honey 7 to 8½c. Beeswax, 26c.

THE FRED W. MUTH CO.
July 10 05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—Honey will soon commence to sell again, but there is small demand at present; poor and old honey is hard to sell at all. We quote as follows: New fancy white, 14 to 15c; No. 1 white, 12 to 13c; fancy amber, 10 to 11c. Beeswax, 25 to 32c.

BATTERSON & CO.,
Aug. 4 1905. Buffalo. N. Y.

TOLEDO—The market on comb honey at this writing is rather quiet on account of the large receipts of berries and fruits. we quote fancy white comb, 14 to 15c; No. 1, 13 to 14c, with little demand for amber. White extracted in barrels, 6 to 6½c, cans, 6½ to 7c. Amber, extracted, 5 to 5½c. Beeswax, 26 to 28c.

On account of the large crop of comb honey this season, the bee-keepers are commencing to offer their crops early, and the out look for this season is very fair, and of a good quality.

GRIGGS BROTHERS,
Aug. 4, '05 Toledo, Ohio,

KANSAS CITY—The market is well cleaned up on comb honey. Extracted in light demand. Beeswax is in good demand. We quote as follows: Fancy white, 10c; No. 1 white, 9c; white, extracted 7c; beeswax 28 to 30c.

WALKER-BREWSTER GROCER CO.,
June 3, 1905 423 Walnut St., Kansas City, Mo

CHICAGO—The new crop is appearing and selling in a fair way considering that this is midsummer time. We quote as follows: Fancy white, 14c; No. 1 white, 13 to 13½c; fancy amber, 11 to 12c; No. 1 amber, 9 to 10c; fancy dark, 10c; No. 1 dark, 9c; white, extracted, 6 to 7c; amber, extracted, 5 to 6c; dark, extracted, 5 to 5½c; beeswax, 28c.

R. A. BURNETT & CO.,
Aug. 3, 1905. 199 So. Water St.

CHICAGO—Some shipments of new honey are arriving, but demand as yet is not very active. No doubt, a little later will show quite an improvement, and if producers have any new honey ready for shipment, we advise letting it come forward, as our past experience tells us that the best prices can be realized on early honey. We quote as follows: Fancy white, 12 to 12½c; No. 1 white, 11 to 12c; white, extracted, 6 to 6½c; amber, 5 to 6c. Beeswax, 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
Aug. 7, 1905. Chicago, Ill.

KANSAS CITY—The demand for comb honey seems to be increasing, and the market is firm. Extracted sells slowly as yet, while beeswax moves at 25 to 28c per pound. We do not look for much change until the cooler weather sets in; We quote as follows: Fancy white, $1.75 per case. No. 1 white, $2.50 per case; fancy amber $2.50 per case; white, extracted, to 6½c: amber, 5½; dark, 4½ to 5c per pound.

C C. CLEMONS & CO.,
Aug. 8, 1905 Kansas City, Mo.

FOR SALE—100 colonies of honey-gathering bees, in Hilton hives, now being run for extracted honey, and gathering lots of it; also one of the best raspberry locations.—Speak quick.

C. F. PULSIFER,
Nessen City, Mich.

Reference,
W. Harmer, Manistee, Mich. 8-05-1t

50 QUEENS

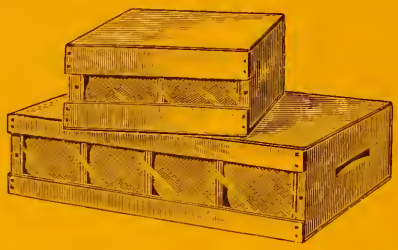
that have just begun laying, are now in my nuclei ready for immediate shipment, at 75 cents each; six for $4 00; or $7.00 a dozen. No disease here. Satisfaction guaranteed.

S. F. TREGO,
8-05-3t Swedona, Ills.

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To operate on shares in the great honey belt of Texas. Personal attention given. Full particulars to any who mean business.

H. H. HYDE,
111 Fourth St. San Antonio, Tex.
8-05-2t



SHIPPING-CASES.

Don't allow your comb honey to be sold at low prices, after you have taken great trouble to produce it, on account of poor shipping cases. Put your honey into Root's No Drip Cases, and it will reach the market in perfect condition and bring the highest prices. Our cases are made of selected basswood, with two or three inch glass which shows off the honey to the best advantage. Below is a condensed price-list. Write for our complete catalog.

SHIPPING-CASES. NAME AND SIZE OF CASE.	Nailed each.	Price complete including 3-inch glass 1 side, nails and paper, in flat. 1	10	100	With 2-inch glass instead of 3, per 100	Without the glass per 100.
12-in. 4-row for 4¼ s'n	30	25	$2 00	$18 00	$17 00	$16 00
10-in 4 row "	0	25	2 00	17 00	16 00	15 00
12-in. 2-row "	20	15	1 30	11 00	10 50	10 00
10-in 2-row "	20	15	1 20	10 50	10 00	9 50
16-in. 2-row "	25	18	1 50	12 00	11 50	11 00
8-in. 3-row "	20	15	1 30	11 50	10 75	10 00
6¼-in 3-row "	20	15	1 20	11 00	10 25	9 50
7⅛-in. 4-row for 4 x 5..	30	22	1 80	16 00		14 00
7⅛-in. 3-row "	25	20	1 40	12 00		10 50
9¼-in. 4 row for 3⅝ x 5	30	22	1 80	16 00		14 00
6¼-in 3 row "	25	20	1 40	11 50		10 00

5-GALLON SQUARE CANS.

These are the favorite packages for Shipping Extracted Honey to the market. There could be no shrinkage and consequent leaking, no taint to the honey from wood, as is frequently the case with kegs and barrels. The cans being square economize space and are easily handled. These cans are almost exclusively used in the West, where honey is shipped in them at rate same as in barrels.

Price List of Square Cans.

No. in a box.	Capacity of each can in gallons,		in honey.	Price of 1 box	Price of 10 bxs.
1	5-gal. can	boxed	60 lbs.	$ 55	$ 5 00
2	5-gal. "	"	60 "	85	8 00
10	1-gal. "	"	12 "	1 50	14 00
12	½-gal. "	"	6 "	1 50	14 00
24	¼-gal. "	"	3 "	2 40	23 00
100	1-gal. "	"	12 "	11 00	105 00
100	½-gal. "	"	6 "	9 00	85 00
100	¼-gal. "	"	3 "	7 00	65 00

Write for Complete Catalog.

THE A. I. ROOT CO., MEDINA, OHIO

SEPTEMBER, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 212

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Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Sept. 15, 1905

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Gleanings, (new)	($1.00)	$1 75
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Country Gentleman	(2.50)	3.15
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Youths' Companion....(new)	(1 75)	2.35
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Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest Sates). and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the mauifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	205
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.	130	W. Va....	178
Iowa..	800	N. H.	158	Wash....	122
				Wis.....	620

W. Z. HUTCHINSON, Flint, Mich

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Marshfield, Wis.

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Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

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Now is the time to send in your order for goods for use next season and for all orders where cash accompanies, we allow the the following discounts:

Before Oct.	1	deduct	to per	cent.
" Nov.	1	"	9	"
" Dec.	1	"	8	"
" Jan.	1	"	7	"
" Feb.	1	"	6	"
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Froight rates from Toledo are the lowest. Can take honey and beeswax in exchange for supplies if you desire. Send for free illustrated catalogue. It describes and illustrates everything for both the Poultry and Bee-Keepers.

GRIGGS BROS.

521 Griggs Block

TOLEDO, - - OHIO.

Bee-Keepers

Save money by buying hives, sections, brood frames, extractors, smokers and everything else you need of the

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☞Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog and copy of The American Bee-Keeper, a monthly for all bee-keepers; 50c a year, (now in 12th year; H. E. Hill editor.)

W. M. Gerrish, East Nottingham, N H., carries a full line of our goods at catalog prices Order of him and save freight

Time is Money.

The following large discounts are offerod for early arders accompanied by cash. This applies to all goods excepting honey packages for current use.

For cash orders before—

Oct. 1st, 10 per cent. Nov. 1st, 9 per cent.
D c. 1st, 8 per cent Jan. 1st, 7 per cent.
Feb. 1st, 6 per cent. Mar. 1st, 4 per cent.
April 1st, 2 per cent.

Bee-Keepers' Supplies. **G. B. LEWIS CO.,** **Watertown, Wis., U. S. A.**

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Norris & Anspach, Kenton, O.
A. G. Woodman, Grand Rapids, Mich
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
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Adam A. Clarke, Le Mars, Iowa.
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Will save money by using our Foot Power Saw in making their hives. sections and boxes.

Machines on trial.

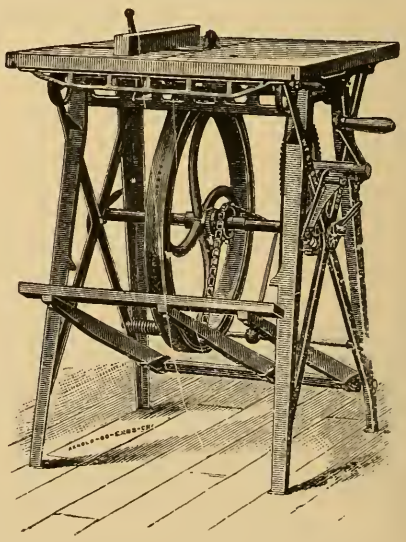
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W. F. & JNO. BARNES CO.,

384 Ruby St.,

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4-04-19t



Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Untested, 75c each; six, $4.00; 1 doz., $7.50. Select Untested, $1.00 each; six, $5.00; 1 doz., $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

Page & Lyon

Mfg. Company

New London, Wis.

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Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases. Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

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LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians, Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3 00 each.

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IT EXCELS.

We Guarantee Satisfaction.

BEE-SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

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No. 51 WALNUT STREET, CINCINNATI, OHIO.



E. W. Alexander, Delanson, N. Y.

Courtesy of Gleanings.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor

VOL. XVIII. FLINT, MICHIGAN, SEPT. 15, 1905. NO. 9.

Some of the Depths from Which Bee-Keeping Has Arisen.

E. W. ALEXANDER.

MY young friend, please come with me, and we will take a view of bee-keeping as I found it 50 years ago, when I was a boy of only 10 years. At that time my father kept quite a large apiary, and the hives were mostly the common box hives. We had as nearly as I can remember, about 20 Bevan hives which had bars across the top with the under side beveled off to a sharp edge in the center, so as to cause the bees to make their combs straight along the bar. These were, at that time, considered a great hive, and I will speak of them again, but the most of his colonies were in common hemlock boxes, of many different sizes and shapes; some of them not having as much as an auger hole in the top to allow the putting on of a small box for surplus honey.

NO SMOKERS NOR VEILS.

We had no "head-rigs" in those days to protect our faces when handling our bees, neither did we have any smokers to quiet those cross, black bees, and, oh, how they *would* sting! When father was around to help me, he would take a pipe and blow some tobacco smoke into the entrance of the hive before disturbing the bees, but as he had a farm to attend to, and was a surveyor, he had little time to attend to bees; so when I thought a hive needed attending to, I would go at it without any protection whatever. I have always had a great dislike for tobacco, especially the smoke, so I used to think of the stings and the smoke, and of the two evils I preferred the stings. When I wanted to find out something about the inside of a colony, I would take the hive into the currant bushes and go to work. Oh my, how I *did* used to catch it from those bees! Many times I would run to the house, crying, have my mother take the stings out of my face, and then go back and finish whatever I had undertaken. Sometimes I would want to find the queen, and I would have to dig out most all of the combs in order to find her. Other times I would want to know how long it

took the eggs in a certain comb to hatch into larvae and to mature into perfect bees. Then I used to look with wistful eyes on those nice chunks of honey in the corners of the hive. I often wanted some of them to sell to my neighbors, so I had a blacksmith make me a knife (I have it yet in the shape of a stove poker) so I could cut across the inside of the top of the hive and get out those precious chunks of honey, and still leave enough in the hive to carry the bees safely through the coming winter. This is the way I got my first surplus honey; and if we took 10 or 15 pounds a year from a colony, we thought we had done exceeding well.

PRIMITIVE EXPERIMENTING.

One day it came into my head to find out how many bees there were in a large swarm, so the first swarm that came out I hived it in an empty box, then, at night, when the bees were all in, I sunk the box in a barrel of water, drowning the bees so I could count them the next day. That swarm contained almost 39,000 bees.

And so I went from one thing to another, destroying many good colonies in trying to learn all I could about them. In fact, this was my only way, as there were no bee journals at that time, and I could not get track of any books on the subject.

OLD-TIME SUPERSTITIONS.

I never can forget the long walk I took one day in search of knowledge. A neighbor told me of a man living about eight miles from father's house who had his garden full of bees; and, certainly he must know all there was to know about them. That was enough for me; the next morning, before sunrise, I started a foot and alone to see that man. I got to his place about ten o'clock, a. m., and found him and his whole family hiving a swarm. He was pounding on a big drum, his wife also blowing the dinner horn, seven children were hammering on tin pans, and the old grandma had a looking glass in her hands throwing the reflection of the sun on the bees. There was nothing unusual about this hiving of bees, as I had seen some of our neighbors do nearly the same thing. I told him father never made any such noise when his bees swarmed, and he got along just as well. He then told me if my father died, I must go to every hive, the first night, and tell the bees all about it; for, if I did not, all the bees would die in less than a year. "Then," he said, "you see that wax the bees are carrying in on their legs, the king bee makes that into comb." I told him I knew that was not so, for they carried that stuff into their hives when they had been full of comb a number of years. He told me one thing to be sure and remember, "when you take your honey in, in the fall, take it at the new moon in October, and you will find that it will weigh more than when the moon is past full." He then went on and said, "When you take your honey, if you don't have brimstone enough you will find sulphur is just as good." He told me that down cellar was a good place to keep honey. I told him it would not be as handy for the boys as up garret. He said "If my boys helped themselves to honey I would thrash them." I then told him my father never whipped his children, and always said that a child could not love a father that whipped him.

BARBAROUS METHODS.

The almost universal way at that time to get surplus honey was to dig a hole in the ground, put some live coals of fire in it, then throw on some brimstone, and set the hive over the hole, thus smothering the bees. That is the way the lightest and heaviest colonies were treated. The colony that filled its hive with honey to overflowing, 50 years ago, stood in the same light, before cruel man, as did the man who dared to think aloud two or three hundred years ago. The guilotine and

halter were in constant use, disposing of one, while the brimstone pit disposed of the other. As a parting shot, I told this man that my father never had a brimstone pit in his bee yard, and often said he would rather never see honey than to take it in that inhuman way. This remark cost me my *dinner*, for the man looked angrily at me, and went to the house, while I started for home, as nearly discouraged as I ever was in my life; for it seemed as if I never could find out anything about bees that would be of any use to me, unless I got it direct from the bees themselves.

My poor little legs ached that night, when I got home with an empty stomach and a heavy heart; but my *disappointment* was the worst of that day's work, for I had such high hopes in the morning of learning something that would be of use to me in the future.

Father never liked to have his bees swarm, as he would lose so many. Not knowing anything about clipping the queen's wing, he invented the plan of making his increase in this way: he had a blanket, in the center of which he had a small loop fastened, then he would turn one of those box hives bottom side up, lay this blanket over it, raise it up by the loop a few inches, forming a little tent over the hive, while I would hold the cloth tight around the sides, and drum on the hive, he raising the cloth occasionally until we saw we had a nice swarm in the cloth; then we spread it out on the ground and the bees would go into an empty hive, the same as a natural swarm. Such were my first lessons in bee-keeping.

A FAINT HINT OF A MOVABLE COMB.

One spring, after losing several colonies during the winter in those Bevan hives, I spoke of above, when father and I were taking out the combs, I said, "Hold on, I have an idea. You know some of those Bevan hives on that front row are very light in honey, so, wait a minute." I then got my mother's bread knife and, carefully cutting the combs loose from the ends of the hive, I raised them out, one at a time, and put them into an empty hive. "There," I said, "I want those heavy combs to put in those light hives in the garden." Father looked at me a moment, then said, "my son, that is a *great idea* and will some day make bee-keeping a fine business."

This was in the spring of 1855; and he gave me the whole charge of his apiary at that time. After awhile I heard of a movable comb hive. *Then* bee-keeping took a great start. The American Bee Journal came to the front, edited by Samuel Wagner. Then came Gleanings, the Review and many other journals. About this time Italian bees were brought to this country. Then came the bee smokers, honey extractors, comb foundation, and many other valuable inventions and improved methods, enabling us to manage, to an advantage, apiaries of a 1,000 colonies and producing honey by the *car load*!

My young friend, if you should read this article over a dozen times you could not even then realize the many advantages you now have in caring for bees. If it be true that "He who makes two blades of grass grow where only one grew before is a public benefactor," then, truly, those men were great benefactors who have given us these inventions and improved methods. The same may be said of the authors of our many volumes of bee literature, together with the editors of our bee journals, all of whom have spent many hours of hard labor by their midnight lamp in order that we might save thousands of tons of honey where only a few tons of honey were saved 50 years ago. May their names and memory be cherished for many years to come, is my sincere hope.

And now, when we go into our apiaries, and enjoy using all these improvements, let us not forget to extend a

helping hand to him whom we may be able to assist, as those great public benefactors have assisted us. All honor to each and every one, who helped raise bee-keeping from the rut of ignorance and superstition to that high plane it now occupies with other rural pursuits.

DELANSON, N. Y., Feb. 3, 1905.

Running Apiaries on the Visiting Plan in Vermont.

J. E. CRANE.

THE number of colonies of bees that can profitably be kept in one location is, and doubtless will remain, an open question. When there is a good yield of honey for three to six weeks, more colonies can be located in one place than is generally supposed. My dependence is almost wholly on clover, which is usually abundant, and I should not think of starting an out-apiary before I had 150 colonies in my home-yard. I could never see much difference, during clover bloom, whether there were 50 or 150 colonies in the apiary.

The difficulty with large yards is that they require more care in spring and fall than smaller ones need. It is more work to build them up in the spring, and in autumn they require more feeding, unless there is more fall flowers than in this section of the country. I had nearly 200 colonies before I began to move them away.

ADVANTAGES OF A PROTECTED LOCATION.

In selecting a new location, great care should be taken that it is well sheltered from prevailing winds. I know now, what I did not know some years ago, that this makes a *great difference* in the yield of honey. During the past ten or fifteen years, I have had occasion to change the location of all of my out-yards, and I believe I can truthfully say that where the new location has been more exposed to winds, or cold draughts of air, the yield has decreased; and where the new location has been more sheltered, the yield of honey has *increased*.

I will mention one case. Some fifteen or more years ago I bought a whole yard of bees, and moved it to a locality that seemed to me very good; but I was disappointed, year after year, by the small yield of honey, and I came to the conclusion that the locality was a poor one. Some five years ago I moved it to a more sheltered place, only about forty rods away, since which the yield, per hive, has been as good as from any of my yards.

As I usually keep about 100 colonies in a yard, I aim to locate them four or five miles apart. I have sometimes rented bees to be cared for on shares, but I now prefer to care for all myself. If a man is careful, and knows how to care for bees, he will prefer to own them to taking them on shares. If he does not know how, or is shiftless, the owner will find it to his advantage to take care of them himself I have no difficulty in renting a small piece of land, for $2.00 or $3.00 a year, upon which to place a yard of bees.

I know of nothing better, at present, than a good horse and wagon to use in

travelling between yards. To be sure, horses that are afraid of bees will cause some trouble, especially after having had some experience in being stung. There is rarely much trouble in getting into a yard with a load, but when taking off honey we sometimes have trouble in getting away with a load of honey. All of my out-yards are so arranged that we can run a load of honey, by hand, from five to twenty rods away, where there is no trouble in hitching on a horse. During the past 25 years, I have met with no serious accident in the use of horses near bees, and do not think, with proper care, they will be likely to occur.

NO NEED OF KEEPING A MAN AT EACH YARD.

When I had less experience than I now have, I used to employ a man for each out-yard during the swarming season. By so doing I was *sure* of a large *expense*, whether I had much honey with which to meet it or not. For many years past I have preferred to look after all my bees myself, with one man to assist me. I do not find the loss from absconding swarms any greater, and I can know just how each yard and hive is progressing, as the season advances.

I find one of the most difficult obstacles to overcome in keeping bees in large numbers, at some distance from home, is a disposition to neglect them. "Out of sight, out of mind," is an old but true proverb. And I may as well say right here that, to make a success of many yards of bees, one must have the business thoroughly systemized. Hives, swarming, help, everything, should move like clock work; even the *weather* must not interfere, and your horses must learn that you have got to be on time. Hives should all be of one pattern, every part fitting every hive in every yard, and so constructed as to be manipulated in the quickest time possible.

Time is the most valuable factor in the business, aside from necessary knowledge and skill.

Whether hives should be made by hive manufacturers, or near home, will depend upon the ability of nearby factories to accurately cut out just what you want, and at less expense than it would cost to have it done at a distance.

OUT-DOOR WINTERING COSTS SIX LBS. EXTRA PER COLONY.

Whether single-wall or chaff hives are used will depend on the method of wintering. I have always wintered, or I should say, *usually* wintered, out in chaff hives. From experiments I believe it takes fully six pounds more of honey to winter average sized colonies out of doors than in a good cellar or cave. If 500 colonies are kept, it would cost 3,000 pounds more to winter them out of doors than it would in a good, under-ground repository; an argument that it is very hard to withstand. I believe it less labor to winter out-doors than in. I believe, however, that it would be less labor to winter in a cellar where bees are kept through the summer, than to draw all home to one central place or cellar, though I have had no experience in hauling bees home in the fall and back again in the spring, and, therefore, cannot speak with much authority.

Whether surplus comb or extracted honey should be the object of running out-yards, depends upon the amount, and value of each, that can be secured. I have always run my out-yards for comb surplus, but am intending soon to start one or two yards for extracted honey, exclusively, as I find a growing demand for well-ripened liquid honey, at good prices; many persons preferring it to comb at the same price.

HOW TO PREVENT SWARMING.

I presume there is nothing connected with keeping bees in out-yards that seems to the inexperienced so formid-

able as swarming. And yet, if we go at it systematically, it is not difficult to control. Visit every yard once in eight or nine days. Open every populous hive, and, if preparing to swarm, either remove the queen and cut all the queen cells having larvae more than three or four days old; or if the queen has been previously removed, cut out all queen cells, and, later, give all such a virgin queen. The queen removed, if vigorous, can, with a comb of brood and a few bees, be made the nucleus of a new colony. Instead of treating *all* colonies in this may, I prefer to shake the strongest colonies upon empty combs (if I have them) or full sheets of foundation, using the combs of brood for building up weaker colonies, or any nuclei that have been started.

Of course, all queens should be clipped before swarming begins. This method gives about the right increase, and a large amount of honey. If a yard of bees are run for extracted honey, with large hives and frequent extracting, the swarming problem is not serious; indeed, it pretty nearly solves itself.

Where out-yards are run for comb honey, I should not think of getting along without a small building for storing combs, clamps, cushions for use in wintering, tools, etc., as well as the honey in its season. It is better to keep a smoker, and such tools as are in constant use, at each yard. It is not pleasant to go five miles from home for a day's work and then discover that, for some unaccountable reason, you have left your smoker at home.

I hardly need to add that in locating out-yards, a place should be selected where there is likely to be a large supply of clover, basswood, or buckwheat, or all combined; in fact where there is likely to be the best yield of honey.

MIDDLEBURY, Vt., Nov. 15, 1904.

Editorial

"Know something of everything, and everything of some one thing."

Mr. D. E. Lyon is doing some very excellent photographic work for Gleanings.

Peace now reigns over the apicultural world. There are no bickerings, nor warring factions. Long may this condition last.

Handle the bees *now* if they must be handled any more this fall. After this month there ought to be no pulling to pieces of the brood nest. Feeding may be delayed until next month, but there is no really good reason why it should not be done at once.

C. E. Woodward writes that there were two errors in his article that appeared in the July issue of the Review. The cost of building up his home apiary, including buildings, was $3,333 34, instead of only $333.34. The honey tanks held 2,000 *pounds*, each, instead of gallons.

M. A. Gill of Colorado writes that Colorado bee-keepers have just passed through their poorest season—no increase and little surplus—but those who are giving their bees proper attention will have them in good condition for winter. To use his exact words: "You know a good General tries to make a good retreat when he sees he is licked."

Corrugated Board, such as is used in packing bottles and other fragile articles, for shipment, is suggested in Gleanings, by J. A. Green, for use as strips to place under sections in the no-drip shipping cases, instead of the usual strips of wood. This corrugated board possesses considerable elascity, and would help to lessen the damage from bumps.

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Huber, the youngest member of Mr. A. I. Root's family, is now a married man. On the 6th of this month he and Miss Mabel Knisley, of Butler, Indiana, joined hands and fortunes, and will make their home at Medina. Huber is a bright, energetic, agreeable young man, and, unconsciously, makes friends for himself and the Root company where ever he goes. The Review wishes him and his young bride a long, happy and useful life.

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Have you voted for candidates for the officers to be elected in the National Association next November? If not, do so at once. In the last issue of the Review I made some suggestions as to candidates. Jas. A. Green, in Gleanings, suggests the name of O. L. Hershiser as candidate for President. Dr. C. C. Miller writes me to say that he has been a Director ever since there were any Directors, and that he is no longer a candidate—that he would refuse the office if elected.

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"The Honey-Money Stories," is the title of a 64-page booklet recently gotten out by Geo. W. York & Co., of Chicago. It is printed on enameled paper, and beautifully illustrated with between 30 and 40 half-tone engravings. In the back of the book are three bee-songs, set to music. It is edited by Earl M. Pratt, and contains a variety of short bright stories, interspersed with facts and interesting items about honey and its use. In fact, the primary object of the book seems to be that of awakening interest in honey, and increasing its consumption. The price is 25 cts for a single copy, or five copies for $1.00.

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The West Michigan Fair, to be held at Grand Rapids, Sept. 18 to 22, has introduced something of an innovation in its bee department. From 10 a. m. to 12 m., on each of four days, some expert bee-keeper is to give a talk, and answer questions on bee-keeping. Here is the program:—

Tuesday, Sept. 19—W. Z. Hutchinson, Editor of Review.

Wednesday, Sept. 20—S. D. Chapman, whose honey crop for 1905 is 17,000 pounds.

Thursday, Sept. 21—E. D. Townsend—1905 crop 25,000 pounds.

Friday, Sept. 22—Geo. H. Kirkpatrick—1905 crop 14,000 pounds.

These talks may be made to serve a useful purpose, and Superintendent Woodman is to be congratulated upon his enterprising methods and management.

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Keeping Queens over the winter is something that has never been practiced to any great extent, except as they are kept over in full colonies. In the fall queens are plentiful and cheap, in the spring they are dear and scarce, and if there could be discovered some cheap, practical manner of keeping over a surplus, it would be a boon to queen breeders and purchasers, alike. In a limited way, I have tried wintering over nuclei in the cellar, but it was not a success. Dr. Miller tells, in Gleanings, of his success in dividing colonies in the fall, giving an extra queen to a queenless half, and wintering both halves and both queens in the same hive, by putting a thin, board partition between the two halves. By looking in at the entrance, in the winter, the Doctor says that he would find the two halves formed into one cluster; divided, of course, by the division board.

Jacob Alpaugh, one of Canada's bright sons, is still in the bee-keeping ranks, to some extent. I met him this fall when I was over at Toronto awarding the preminms in the bee department of their fair. For the last year or two he has kept about 150 colonies in a new region up near Owen Sound. I asked him if he was still in the bee business. He said, yes, as a sort of side-issue. "What is your main business, then, I asked?" "Hunting and fishing," was the reply. He takes his dogs, guns, boat and fishing tackle with him, and the summer's work with the bees is pretty thoroughly mixed up with sport. By the way, he told me that his apiary was located in an old, neglected orchard, where the limbs had grown to such an extent that the ends had met and inter-lapped. One tree had died some time ago, leaving an opening of perhaps ten or twelve feet, and all of the bees from the 150 colonies passed out and in that opening. Sometimes, when a storm was coming up, or a black, thick cloud passed over, driving in the bees, this opening would be so filled with bees as to completely obscure the sky.

Grading Rules seem to be destined to come in for a new discussion. I well-remember what a time we had getting the present ones adopted. It was found to be useless to discuss them in open convention, as the discussion would never end. Finally it was referred to a committee, and the committe wrestled with it for hours, and the final form was a compromise, as it was impossible to even get two members to agree on all points. After the rules were finally approved by the convention, they came in for a lot of criticism from bee-keepers in different parts of the country. Some bee-keepers have even gone so far as to condemn all rules of grading; saying that they were not only unnecessary, but their use really robbed the bee-keeper. Before the coming convention of the National, it might be well to discuss this matter of grading. Do we need rules, and, if so, what changes ought to be made in the ones adopted a dozen years ago by the National? See these rules at the head of the column of honey quotations, on the inside of the back cover.

Taking off a Hive Cover, if it is a flat cover and no quilt is used, is sometimes not the easiest thing if the weather is a little cool and the cover stuck down solid with propolis. Of course, it *can* be pulled off easily enough, kicked off or jerked off, but the snap with which it comes off irritates the bees. To get rid of this snap with which the cover usually comes loose, place the left hand upon the center of the cover and bear down lightly. Place the fingers of the right hand under one corner of the cover and lift up with a long steady pull. The result will be the cover will gradually give up its grip upon the hive and come off quietly—the counter-pressure of the left hand upon the center of the cover preventing that annoying snap. Mr. Elias E. Coveyou, of Petoskey, Mich., told me this wrinkle.

Why Re-Queening Prevents Swarming.

It is quite generally admitted that re-queening with young queens has a tendency to prevent swarming. I have never been able to see any reason why, but Adrian Getaz, in the Western Bee Journal (now discontinued) says it is not so much because of the age of the queen, as that re-queening, when the colony rears its own queen, leaves the colony several days without any sealed brood. During this time the young bees, that would otherwise be engaged in feeding larvae, take to field-work, and when the young queen begins to lay, the excess of nurse-bees has ceased to exist; and this excess is not likely to occur again until the swarming season is over. He says the same re-

sults would be secured, so far as swarming is concerned, if the old queen were removed until the bees had been four days without unsealed brood, and then returned again. I have, for several years, sold tested queens in the spring, and introduced young laying queens from the South in their places, and it almost entirely prevented swarming. Many of these queens were introduced to colonies that had first built a batch of queen cells, and all colonies would be without a laying queen a few days while the young queen was being introduced, and it is possible that this same principle of leaving the bees with a scarcity of unsealed brood for a short time is what worked the change. Elwood, and others who practice removing or caging the queen at the beginning of the swarming season, releasing her again in 15 or 20 days, cutting out the queen cells in the meantime, are taking exactly the course advocated by our friend Getaz. While it may make no practical difference in the working of the plan, there is always a lot of satisfaction to some of us in knowing "the reason why."

The Good Seasons Will Come Again.

I have a most sensible letter from a snbscriber in one of the Southern States. He writes rather discouragingly in regard to his location, saying that there have been repeated failures, year after year, and, in two years he has fed 20 barrels of sugar to keep the bees alive.

In former years he had harvested crops that were phenominal, and was able to rear queens continually from March to October, with no feeding at all. Now all this is changed. He says the question with him is, shall he go somewhere else? Upon investigation, he says it has found that nearly all localities have periods of failure, the same as he is now experiencing. He has about concluded that nothing may be gained by changing. If the same kinds of honey producing plants are present, in large numbers, as those that furnished the big crops of the past, I think I should stay by them. Along in the nineties we had very poor honey crops here in Michigan—so poor that I came as near being discouraged as I ever did. I began to feel that, as the country was being cleared up, the honey plants were disappearing, and that the good crops were things of the past, and not of the future. In this I was mistaken. The last three years have furnished excellent harvests. As reported recently, in the Review, one bee-keeper near here secured, last year, nearly 100 pounds of comb honey, per colony, from 60 colonies, spring-count. Taking the country as a whole, it appears as though the crop for this year will be a light one, but Michigan is furnishing a good crop. And, so it goes. That is, the good seasons come and go; and, unless the plants have been destroyed that furnish the honey, unless the conditions have been radically changed in some manner, I think it doubtful if it is wise to change localities because of a few years of failure.

Comb Honey Production in the West.

Here is another criticism upon my plan of comb honey production. It comes from that veteran, E. F. Atwater, who lives in Idaho, He says:—

Friend W. Z.—Your system for the production of comb honey as given on page 178, of the June Review is no doubt much better for your locality, or the Eastern States in general, than for any part of the arid West. First, the super nearest completion must never, for more than a very few days, be separated from the brood-nest by more than *one* super.

To induce the bees to begin work, the third or fourth super may be put next the brood-nest for a short time and then raised to the top. When two or more supers are on the hive, as a rule I want the super nearest comple-

tion to be the second super from the hive, rather than having it always next the hive, as in the Hershisher plan. The Hershiser method results in too many burr and brace combs, and the clogging of the brood nest, as my helper of 1903 can testify, when we gave that plan a thorough trial. My method of tiering (first worked out, I think, by Dr. Miller) results in better finish, as well as enabling us to come nearer handling full supers only, in our yard work. Try it. Towards the close of the season, when doubtful if the bees will need more room, it is all right to give the empty super on top.

Contraction is of little use here, when hiving swarms. Better have swarms, either forced or natural, of such strength that it will not be necessary to contract an eight-frame hive of standard size. An average good queen with a large swarm, can easily fill such a hive with brood, which is what we need to insure workers for our second crop from alfalfa. The old colony will often be as good as the best during the second flow; especially if any full combs of honey be removed from the brood nest, when the young queen begins laying, and full sheets of wired foundation substituted.

If you were to unite those swarms when hived, rather than at the close of the season, wouldn't you get more honey, better brood combs, better finish and do it with less work ? If I remember right, you once said in a footnote to an article by C. Davenport, that it was your practice to hive two or more swarms in a hive. That pays, if honey is the object.

Friend Atwater, I have never practiced hiving two swarms in one hive, but I most cheerfully admit that the practice *might* bring about all of the desirable results that you mention. I should like to see the experiment tried, of hiving two swarms together in an eight-frame brood nest, and that of hiving swarms singly in brood nests contracted to five frames, and then compare results.

The National Convention to be Held in Chicago.

Ever since the breaking out of the yellow fever in the South, have I been receiving letters from different parts of the country suggesting that the place of meeting for the National convention be changed to some Northern city. To all, for a long time, I returned the same reply: "Let's wait and see how things turn out. If the fever is crushed out of existence, or controlled, then we can go to Texas just as well as ever." To a certain extent, the fever has been controlled, but there seems to be no probability that it will be done with before the time that has been set for holding our convention in San Antonio. The time has come when we can wait no longer. If a change is to be made, it must be made at once, that bee-keepers may be planing accordingly. Before taking up the matter with the Executive Committee, I wrote to the Directors, the editors of the leading bee journals, and to several of the most prominent bee-keepers, asking for their views on the subject. The majority was overwhelmingly in favor of a change. The matter was then taken us with the Executive Committee, and every member favored a change to Chicago, during the fat stock show, the first week in December. It is possible that some other Northern city has greater claims than Chicago for the holding of the convention, but the meeting must be held where reduced railroad rates will be assured, and the fat stock show furnishes these.

It is possible that there is no real danger from the fever at San Antonio, but the *fear* of it is *real*, and would have kept away the Northern people. The bee-keepers of Louisana and Mississippi would have been shut up in their own States. Texas has had a slim crop of honey this year, and, taken all in all, a convention this fall in San Antonio would have been a pretty slim affair. I think that even the Texans themselves would rather wait another year, when, if all goes well, the convention can be held in San Antonio with every assurance of a big crowd.

Arrangements have been completed for holding the meeting in Chicago, at the Revere House, corner of Michigan and Clark Sts., on the 5th, 6th and 7th of December. This hotel can accommodate at least 300 bee-keepers, and the rates are 75 cts for a room alone, or 50 cts. each where two occupy the same room. Meals are extra, or they may be secured at nearby restaurants.

W. Z. HUTCHINSON, Secretary.

The Temperature at which Liquids Boil.

Many of us have fallen into the habit of thinking that the "boiling point" is a certain degree of heat—that, for instance, at which water boils. And right here let it be explained that water does not always boil at the same temperature. At the level of the sea it boils at 212 degrees Farenheit, but the higher we ascend, the lower the degree of heat at which it will boil. The less the atmospheric pressure, the less the heat required to bring the water to the boiling point. In sugar factories, the boiling is done in a vacuum, as the degree of heat required is so much lower. Quite a graphic, as well as somewhat amusing, illustration of the pranks that altitude plays in the matter, was given me by a bee-keeper who went West on account of his wife's health. They went up into the mountains and lived in a tent. The husband was out "prospecting" the first forenoon, and returned at noon for his dinner, only to find his wife all wrought up because the beans were not cooked. "I have boiled them all of the forenoon," she exclaimed, "and they are just as hard as ever they were." The husband was well-stocked with "book larnin'" and it did not take him long to decide why this mysterious performance—they were so high up that the water boiled at such a low temperature that there was not sufficient heat to cook the beans. They found, afterwards, that they could not cook even potatoes by boiling—it was necessary to bake them.

There is still another phase of this matter, and one in which bee-keepers are probably more interested, and that is that all liquids do not boil at the same temperature. The heavier the liquid the greater the heat required to bring it to the boiling point. Honey will not boil at the same point that brings water to the boiling point. I came across quite a graphic illustration of that the other day when out on an inspecting tour. A bee-keeper wished to boil some honey that he had extracted from foul broody colonies. He bought two wash-boilers—a No. 8 and a No. 9. He set the No. 8 inside the No. 9, putting sticks under the inside boiler to keep it off the bottom of the outside boiler. He filled the inside boiler with honey, and the space between the boilers he filled with water, and then built a fire in the stove upon which they stood. He brought the water to the boiling point, and kept it there for an hour and a half, but the *honey wouldn't boil!* He finally set the boiler containing the honey directly upon the stove, and then he could boil the honey. It was a puzzle to him why the *honey* did not boil when the *water* boiled.

Liquids lighter than water will boil at a less temperature than that required to boil water. Liquids heavier than water require a higher temperature. There have been some experiments made to show at what temperature, and how long continued, the seeds of foul brood may be expected to lose their vitality. The results of these experiments have not always agreed with the actual practice of boiling the honey. In this connection it would be well to remember that in making the scientific experiments, the boiling has not been done in *honey*, but in some lighter liquid, like water, in which the

boiling point was reached at a lower degree of heat.

While I have never known honey that has been thoroughly boiled to communicate foul brood, I think a better plan is to use all honey of doubtful safety in bakeries, where the heat will destroy all germs, or else by making it into vinegar.

Out-Door Wintering of Bees.

If bees can enjoy frequent flights, out of doors is the place to winter them. If deprived of these flights, a temperature of about 45 degrees enables them to bear a much longer confinement than does a temperature below freezing. In the South, frequent flights are assured; in the North, no dependence can be placed upon the matter. Some winters are "open," or there are January thaws, allowing the bees to enjoy cleansing flights, while other winters hold them close prisoners for four or five months. It is this element of uncertainty attending the wintering of bees in the open air that has driven so many bee-keepers to the adoption of cellar wintering. Still, there are some bee-keepers who, from some peculiarity of location or management, are able to winter their bees in the open air with quite uniform success; others are *compelled*, for the present, at least, to winter the bees out of doors; in short, a large portion of the bees, even in the North, are wintered in the open air, and probably will be for a long time to come. While my preference is the cellar, there is much to be said in favor of out-door wintering. Let me give one or two instances of success: Ira D. Bartlett, of East Jordan, Michigan, which is away in the northern portion of the lower peninsula, began keeping bees when only 14 years of age—began with only one colony—and when 21 years old he had 150 colonies, and had never lost a colony wintering them out of doors. His method of protection was very thorough. He packed four colonies in one box, putting packing not only at the sides, and on top, but also *below* the hives. The packing was fine, dry sawdust, and the roof to the box had eaves that extended over like the eaves of a railroad station, which allowed the roof to be raised up a short distance above the box for ventilation, yet the snow would not get in to any great extent. There was a sort of vestibule in front of the entrances, and this vestibule was kept closed by means of a board, it being removed only when there came a day warm enough for the bees to fly—something that rarely occurred in the winter. So warm and comfortable were the bees when so snugly housed that they even brought the dead bees out and dropped them in the vestibule. I suspect that the thorough protection, combined with the perfect ventilation, allowing no accumulation of moisture, is the secret of this wonderful success.

Another instance was that of two ladies who began bee-keeping in Northern Michigan before the iron horse had invaded that region, and who were uniformly successful, for a long series of years, in wintering their bees out of doors, packed in chaff. Like Mr. Bartlett, they furnished abundant upward ventilation, above the packing. An opening a foot square was cut in the top of the box containing the chaff that was placed over the colony, and this opening was covered with wire cloth to keep out mice; and then, over all, to keep out the storms, was a large roof. So successful were these ladies, that, from first to last, I have paid them nearly $1,000 for bees.

It does not seem as though the question of whether bees should be protected, here in the North, need receive any consideration whatever, yet it has been objected to on the grounds that the packing becomes damp, that it deprives the bees of the warmth of the sun, and that they sometimes fail to fly in the winter, because the outside

warmth is so slow in reaching them, when bees in single-wall hives may be in full flight. There is occasionally a still, mild day in winter, upon which the sun shines out bright and strong for an hour or two, and bees in single-wall hives enjoy a real cleansing flight, while the momentary rise in the temperature passes away ere it has penetrated the thick walls of a chaff hive. On the other hand, there are days and weeks, and sometimes months, unbroken by these rises in temperature; and the bees must depend for their existence upon the heat generated by themselves; and the more perfect the non-conductor by which they are surrounded, the less will be the loss of heat. When bees are well-protected, there is less necessity for flight than when the protection is slight. If a bee-keeper thinks, however, that bees in a chaff hive ought to fly on a warm day, and they *don't* fly, he has only to remove the covering from over the bees, and allow them to fly from the tops of the hives.

For several winters I left a few colonies unprotected; and I discontinued the practice only when thoroughly convinced that, in this locality, the losses were lessened by protection. In severe winters the bees in the outside spaces, or ranges of combs, died first; the cluster became smaller, the bees in more ranges died; and, by spring, all were dead, or the colony so reduced in numbers, and the survivors so lacking in vitality, as to be practically worthless

I have never seen any ill effects from dampness, but I have always given abundant ventilation above the packing. When the warm air from the cluster passes up through the packing, and is met by the cold, outer air, some condensation of moisture takes place. This moistens the surface of the packing, but it remains comparatively dry underneath. With a good strong colony of bees, and ventilation above the packing, I have never known trouble from moisture.

In the giving of protection, chaff hives have the advantage of always being ready for winter, and of doing away with the labor and untidiness of packing and unpacking; but they are expensive and cumbersome. It is some work to pack bees in the fall, and to unpack them again in the spring, but light, single-wall, readily-movable hives during the working season are managed with enough less labor to more than compensate for that of packing and unpacking. Then there is another point: The work of packing and unpacking comes when there is comparative leisure, while the extra work, caused by great, unwidely hives, comes at a time when the bee-keeper is working on the keen jump.

For packing material I have used wheat chaff, forest leaves, planer shavings and dry sawdust. I have never used cork-dust, but it is probably the best packing material. Its non-conductivity is nearly twice that of chaff, while it never becomes damp. The only objection is that it is not readily obtainable, and usually costs something, while the other substances mentioned cost nothing. What they lack in non-conductivity can be made up in quantity. And this brings up the point of the proper thickness for packing. I have often thrust my hand into the packing surrounding a populous colony of bees; and found the warmth perceptible at a distance of four inches from the side, and six inches from the top. This would seem to indicate the thickness when sawdust or chaff are used. I presume that packing has been condemned when it was not more than half done—that is, when not enough material was used. I don't appreciate the arguments of those who advocate the use of *thin* packing. I don't believe that the benefit of the heat from the sun during an occasional bright day, can compensate for the lack of

protection during *months* of extreme cold.

Hollow walls, with no packing, have had their advocates; and it has been asked if these dead (?) air spaces were not equally as good non-conductors of heat as those filled with chaff. They are not. In the first place the air is not "dead;" it is constantly moving. The air next the inside wall becomes warm and rises; that next the outer wall cools and settles; thus there is a constant circulation that robs the inner wall of its heat.

If chaff hives are not used, how shall the packing be kept in place? I know of nothing better than boxes made of cheap lumber. If there is lack of room for storing them in summer, they can be made so as to be easily "knocked down," and stacked up when not in use. Of course, bees can be packed more cheaply by setting the hives in long rows, building a long box about them, and filling it with the material used for packing. With this method the packing ought to be postponed until it is so late that the bees are not likely to fly again until they have forgotten their old locations; else some of the bees will be lost, or some of the colonies get more than their share of bees. When they have a "cleansing flight" in winter, there is also a likelihood of some bees returning to the wrong hive. Then when the bees are unpacked in the spring, there is more confusion and mixing; but I don't look upon this as so very serious a matter. At this time of the year, other things being equal, a bee is worth just about as much in one hive as in another. If there is any difference in the strength of colonies, the weaker ones might be left nearest to where the bees were unpacked.

Speaking of being compelled to wait about packing the bees until they were not likely to fly again until some time in the winter, reminds me that advantages have been claimed for *early* packing; that the bees in single-wall hives only wear themselves out with frequent flights that are to no purpose, while those that are packed are not called out by every passing ray of sunshine; that the early-packed bees sooner get themselves settled down for the winter's nap, and are in better condition for winter when it comes. It is possible that there is someting in this, but there were two or three years in which I tried packing a colony or two as early as the first of September; and I continued to pack a colony every two or three days until the fore part of November, and I was unable to discern any advantage in very early packing. If the bees are protected before freezing weather comes, I believe that is enough.

There is one other point that ought not to be neglected in preparing the bees for winter, whether in-doors or out, and that is the leaving of a space below the combs. When wintered out of doors there ought to be a rim two inches high placed under each hive. This not only allows the dead bees to drop away from the combs to a place where they will dry up instead of moulding between the combs, but if there is an entrance cut in the *upper* edge of the rim, there will be no possibility of its becoming clogged. This empty space under the combs seems to have a wonderful influence in bringing the bees through in fine condition, and I am not certain *why*.

Weak colonies can seldom be wintered successfully out of doors. They cannot generate sufficient heat. In the cellar, where the temperature seldom goes below 40 degrees, quite weak colonies can be successfully wintered.

As I understand it, this whole matter of out-door wintering of bees might be summed up in a few words: Populous colonies; plenty of *good* food; and *thorough* protection. Simple, isn't it? Yet there is a world of meaning wrapped up in those few words.

RESERVE COMBS.

The Advantages that May Come from Their Use in Spring.

It often happens that bees are short of stores in the spring. Particularly is this true with small hives. It does not require so very much honey to carry the bees through the winter, especially if wintered in the cellar. According to some experiments that I once made in weighing colonies while in the cellar, only about a pound of honey a month is consumed until breeding begins in the spring. Five or six pounds of honey will probably be about the amount of honey that an average colono will consume while in the cellar. provided all goes well, and there is no premature breeding or other abnormal conditions, but as soon as brood rearing begins, stores disappear as by magic. The bee-keeper may think, when the colonies are first set out of the cellar, that there are abundant stores to carry them through—a month later the bees may be on the verge of starvation. At this time, or a little before this time comes, is when it pays to feed bees in the spring; and, for this purpose, nothing is ahead of solid combs of sealed honey. Sometimes it seems as though the bees "took stock" of the stores on hand, and guided themselves accordingly. When I visited Mr. J. P. Moore. of Kentucky, last spring, he told me of the bountiful harvests that his bees gather in the fall from asters. This honey is not very good for winter stores, so the brood nests are left undisturbed, with their stores of clover, and the bees encouraged to store the aster honey in the supers. These solid combs of aster honey are kept until spring, and given to the bees as fast as they can use the honey, and Mr. Moore said that one would be surprised at the beneficial effect of these combs of honey—colonies boiling over with bees, and combs full of brood at the opening of the honey harvest. All these things came to me as I read a short editorial in the American Bee Journal of August 31st. It says:—

Are you planning to have a goodly number of combs of sealed honey ready to give to needy colonies next spring? Perhaps it would be better not to speak of giving them to needy colonies, but rather to colonies that can take them. A colony may have enough honey to supply its wants up to the time the white honey harvest begins, and the beginner may think, "Well, that is all that is needed."

There may be a good profit, however, in giving combs of sealed honey, even if those combs are not needed to prevent starvation. The dark fall honey is not worth as much on the market as the earlier light honey, and, indeed, in some cases it is hardly marketable. But before any of the white honey is stored in supers, the bees will fill the vacancy in the brood-chamber. Now, suppose you have sealed combs of dark honey to fill that vacancy. Every pound of dark honey you thus put in the brood-chamber means a pound more of light honey in the super, practically making that dark honey of the same value as the light. See the point? If you do, make preparations accordingly.

There is also another point that I wish my friends would notice, and that is, see how much of that dark honey goes into the sections. You know we have been told what an awful sin it is to feed sugar in the spring, as some of it might get into the surplus, the bees carrying it there from the brood nest. Now, if you feed dark honey in the spring, you will be able to note how much danger there is of honey from the brood nest getting into the supers.

REMOVING BEES FROM THE COMBS.

How the Work May Be Done Late in Autumn Without Brushing or the Use of Escapes.

Getting bees off the combs when extracting must be done late in autumn

is a task. If there is any way of robbing it of its unpleasaut features, let us know it. A writer in the Progressive Bee-Keeper gave an excellent plan about a year ago. It is simple, and, perhaps well-known, but there are always new men coming into the ranks, so no harm will come if it is printed once more. Here is what the writer in the Progressive had to say on the subject:—

"I presume that nearly all bee-keepers know that if there is a time when bees are vicious and dead bent on stinging, it is in the late Autumn when there is little or no honey coming in, and to attempt to take the combs from the hive and brush them one at a time is a task that takes considerable nerve. To avoid this I have an assistant to use the smoker, go to a hive, give a few puffs at the entrance, pry off the upper story, place it on the wheel barrow, remove the excluder and put on the cover, this is done so quickly that the robbers have not discovered which hive you are working on. Have the assistant keep watch of the honey on the wheel barrow and smoke away any robbers that may attempt to pilfer. When the barrow is loaded, wheel it into the honey house and stack the hives up near a screen door having an escape. It would be better if the door had several escapes, let each body extend a little over the end of the one beneath it, so that the bees may escape without going clear up to the top. In this way you can pile them up six or seven high and almost as close together as the hives will stand. The bees will collect on the screen faster than they can escape and when quite a number have collected on it push the screen door partly ajar and strike it on the inside with the hand, this will dislodge nearly every one. Be quick about it and close the door before many robbers can enter, for they are sure to be there looking for a chance to enter.

A HONEY CIRCULAR.

One That is to be Placed Where it will do the Most Good.

The Honey Producers' League has not accomplished all of the things that it hoped for when it was organized, but it has, in a humble way, made a start along the road that it had laid out. Grocers and their clerks, if well-informed and willing, can do much towards killing off the artificial comb honey canard, but the truth of the matter is that some of them are wofully ignorant, and, even if well-informed, generally, are not well prepared to combat this damaging story. For this reason the Honey Producers' League has prepared a circular, a copy of which may be sent out in each shipping case of honey. Here is a copy of the circular:—

TO THE PURCHASERS OF THIS HONEY.

The producer of this Comb Honey, and also the undersigned, guarantee that the product in these sections, or small frames, was all made by honey-bees.

There is no such thing as manufactured comb honey. It never was made and never can be, newspaper and magazine articles to the contrary. If any one says there is such a thing as manufactured comb honey on the market, just tell that person that the National Bee-Keepers' Association, an organization of over 2000 members, through its General Manager, N. E. France, of Platteville, Wisconsin, will pay $1000 for proof of machine-made combs filled with glucose or any other cheap syrup, and capped over by machinery without the aid of bees. Also, a corporation capitalized at $300,000, all paid in, has had for many years a standing offer of a like sum for the same so-called manufactured comb honey as described and the offer is still good. In addition to this, the bee-expert, a life-long bee-keeper, now in the employ of the Department of Agriculture at Washington, has repeatedly, in government bulletins and in public addresses, denied the existence of any such product. For evidence of this fact refer to the report of the Secretary of Agriculture for 1904, page 83; also to Farmers' Bulletin No. 59, for 1905, pages 32 and 34, also issued by the Depertment of Agriculture, entitled "Bee-Keeping," by Frank Benton.

It may be well to state that the basis of these comb-honey canards is possibly due to the fact that the flavor of honey in one locality may be very dif-

ferent from that of another; that when one tastes of a honey quite different in color and flavor from that which he used to eat on the old farm, he concludes that it is adulterated or manufactured, especially if it be of poor quality. As a matter of fact, the comb honey from California is just as different from the article produced in the Central and Eastern States as the fruits of that State are different from those in New England. In the same way, the honey from Texas differs very widely from that produced in Ohio, or honey from Florida from that in Texas. Some honeys, like that from buckwheat, are very dark; others are not only dark but ill flavored, and should never be sent to market, but be sold to the baker or fed back to the bees for rearing young bees.

Two-thirds of the States in the Union have pure-food laws; and one may rest assured that all the States where such laws are in force, both honey in the comb and in the liquid condition, generally called "extracted," is and must be the genuine product of the hive.

The oft-repeated misstatements about adulturated honey and manufactured comb honey in the newspapers and magazines has made it necessary for The Honey Producers' League to put out this statement, for the reason that the general public has come to believe that a large part of the honey on the market is adulterated or manufactured. If the dealer will join with the bee-keeper in helping correct these monstrous lies, it will materially increase his sales of both comb and liquid honey.

THE HONEY-PRODUCERS' LEAGUE.

George W. York, Manager,
Chicago, Ill.
Dr. C. C. Miller, President,
Marengo, Ill.
George C. Lewis, Vice-pres.,
Watertown, Wis.
W. Z. Hutchinson, Sec'y, Flint, Mich.
A. L. Boyden, Treas., Medina, Ohio.

N. B.—*Do not store comb honey in a refrigerator, cold storage, or cellar.* These are the very worst places you can put it. It should *always* be put in the warmest and driest room you have. It is advisable to keep liquid or extracted honey in the same warm dry place.

The leading manufacturers are furnishing these circulars; without cost, with the shipping cases they send out. Bee-Keepers' all over the country, if not already supplied with these circulars, ought to send for some and use them. The cost is only 10 cents for 50, and it would seem that any bee-keeper would be willing to pay this much to help dispel these damaging stories about his product. They can be secured from the Manager of the League, Mr. Geo. W. York, 334 Dearborn St., Chicago, Ill.

THE COST OF HONEY.

How a Large Crop Lessens the Cost of Production.

One of the old, yet ever new, subjects connected with bee-keeping, is the cost of production. No other more important point can be considered. If we produce above the selling price, we are losing. Neither will it answer to produce *at* the selling price. We must not only produce below the selling price, but *considerably* below, if there is to be a living profit. I doubt if there are many bee-keepers who *know* how much it costs them per pound to produce honey. One of the best articles that I ever read on this subject was written by R. L. Taylor, and read some 15 years ago at one of the Michigan State conventions. I came across it the other day, and the arguments are so forcible, clear, and easy of application, that I feel warranted in reproducing the article entire. Mr. Taylor says:—

"Another year has come, scattering its blessings where it listed, and is gone, and whether it has favored us as we had hoped and desired or not, we may well look, and in no complaining spirit, to discover if we may by what rule its largesses have been bestowed, and why our expectations have not been met. To the country at large its bounties have been unexampled, but to those who pursue that vocation which this convention is met to promote, they have been, we will pretty generally agree, in one point at least, rather meagre. But are we altogether right

in our estimate? Are we not too much given to cultivating a feeling of disappointment that we do not get a heavy crop rather than to accepting an average crop with gratification, or to making the most of a small crop? Relatively we have of course had a bad year; some have even had no surplus at all, but on the average has the year been necessarily an unprofitable one? I say necessarily because sometimes one has notions of the profitable character of the venture he is about to engage in so elevated that he wastes sufficient to make a fair profit.

Once many years ago, a craze for the production of hops took possession of the farmers in a certain locality near where I lived. Prices were high, the crop in their estimation certain, and so they were impressed with a certainty that inevitable wealth must fall to everyone engaging in hop raising; then naturally the absolute certainty of coming wealth ushered in a feeling that it was already in possession, at farthest the gold was only over the fence in the soil of the hop field, and a little plowing and harrowing in the spring would secure it, so they were already wealthy and acted on the assumption. No effort was made to secure a line of retreat. Victory was sure. Extravagance in the building of hop houses, in laying in supplies for the packers, and for the handling, weighing, drying and packing of the hops, ruled the hour. But the storm came. Insects infested the hops, the quantity, quality and price were all lessened, and bankruptcy overtook well nigh all of them. The same thing is illustrated by numerous instances in the pine lumber business. High expectations obscured the necessity of care and economy, and waste kicked the profits out of doors, and let in disappointment and failure.

Ruminating upon these things in connection with the business of honey production, the idea suggested itself that perhaps our notions of the status of bee-keeping with respect to profits and necessary expenses, need readjusting, and that the present series of bad years would be a good time to consider the subject. It may be I thought that we are risking a chance of failure by encouraging fanciful prospects of success which are much too highly colored so that we become content to calculate that though by the spending of time in the useless manipulation of the bees and by the purchase of elaboate lines of machinery and supplies, we make the cost of our comb honey twelve or fourteen cents, we may yet be sure of a crop large enough so that the difference between those figures and the selling price will yield a good profit. I do not consider the prospects of profits in fair seasons with good management, but I wish to call attention to the danger of putting too much reliance on the profits, trusting that they will carry us through no matter what the seasons are or to what a high point we run expenses. If one practices proper economy and thereby keeps expenses down to the lowest reasonable point, he still has no bonanza, to be sure, but a safe, comfortable business. The criterion of expenses should be actual needs, not what it is supposed the business will bear. If we make this latter the test, as the majority are greatly inclined to do, we are all sufficiently optimistic to fall into the fatal error of putting the average yearly production too high, and as a consequence to encounter failure in the end.

Mr. G. M. Doolittle has said that if capital and labor get their due reward the cost of comb honey is thirteen cents a pound. It would be interesting to know how he arrived at his conclusions. Did he take the average of the seasons as they are with him as a basis? In that case, as the seasons with him average better than with the keepers generally, to them the cost would be even greater than to him. Then I would like to know how much of the cost is labor and how much capital. Maybe he is extravagant with labor. Not long since, if I remember correctly, he gave it as a reason why he preferred a hive whose frames required handling to one which could be handled in two sections, to accomplish the same purpose, that he enjoyed handling the frames—that he got his pay in fun. It may be that Mr. Doolittle and some other bee-keepers may grow fat on fun, but I am pretty sure that our wives and children will not grow fat on the fun that we alone enjoy. We may well enquire, too, whether he figures in this kind of labor to make up the thirteen cents cost, and so is contriving to get full pay from each of two sources. At all events it requires no argument to show that it would not do to permit the cost of honey to reach thirteen cents per pound. If it were a necessity to permit it but few of us would remain in the business.

There is no one but will admit that we should keep the cost down to the

lowest possible point, and all would be glad to know what that point is. Of course there must be no extravagance in buildings nor supplies, and there must be no loss of valuable time. I have made and submit tentatively some estimates which may at least serve as a stimulus to further calculations as well as a conclusion to the suggestions I am making. For my figures I have taken one hundred and fifty colonies as perhaps the average number that could profitably be kept in one place. The expense is made up of what may be called the fixed charges, i. e., those that are the same whether the crop is large or small, and the variable charges which are made up of those expenses which vary with the amount of the crop. The larger the crop the less of course the cost per pound, and my figures are made so as to bring this out somewhat in detail.

I estimate the value of the necessary plant as follows:

Shop and cellar	$ 300 00
Tools, cases, and extras	150 00
150 colonies bees at $5	750 00
Total	$1,200 00

So my table will stand thus:

FIXED CHARGES.

Interest and wear and tear on plant at 10 per cent	$120 00
One man six weeks during honey harvest	45 00
Taking bees into and out of cellar	5 00
Other manipulations	5 00
Total	$175 90

VARIABLE CHARGES.

Cost per each 1,500 lbs. surplus, being an average of ten lbs.	
2,000 sections	$ 7 00
Foundation	10 00
Fastening in foundation	1 00
Putting up sections	1 00
Crates for packing honey	10 00
Packing	4 00
Commissions and freight	17 00
Total	$ 50 00

Total cost of a crop of 10 lbs. on the average; or 1,500 lbs., $225.

For each additional average of 10 lbs. there must be added $50, whence we get the following results:

Average per colony—lbs.	Aggregate lbs	Aggreate cost	Cost per lb.
10	1,500	$225	.15
20	3,000	300	.9 6
30	4,500	325	.0720
40	6,000	375	.0 625
50	7,500	425	.056
60	9 000	475	.052
70	10,500	525	.05

Taking 15c as the market price, a further step gives us the net profit in each case, as follows:

Total crop lbs.	Price	Total value	Total cost	Net Profit
1,500	15c	$ 225	$225	
3,000	15c	450	275	$ 175
4,500	15c	675	325	350
6,000	15c	900	375	525
7,500	15c	1,125	425	700
9,000	15c	1,350	475	875
10,500	15c	1,575	525	1,050

These figures are far from discouraging, but they speak powerfully for keeping expenses down. In an average location one who spends 365 days in the year on 150 colonies cannot expect to get rich, but by making six or seven weeks do, he can make his investment pay well. The difference in the number of colonies in different apiaries, the presence of buildings or cellars that can be used without the expense of making special buildings and cellars, and the difference in average yields in different localities, make great difference in the net cost of honey, yet though our circumstances vary greatly in many ways, we can, nevertheless, by severally calculating the cost in our respective cases, assist one another in putting the business on a more staple basis than it has hitherto occupied.

LOW RATES TO COLORADO.

Via Chicago, Milwaukee & St. Paul Railway.

Only $30.00 Chicago to Colorado and return every day this Summer. Return limit October 31. Two through trains every day from Union Station, Chicago Milwaukee & St. Paul and Union Pacific Line. Leave Chicago 6:05 p.m. arrive Denver 9:30 p.m. next day. Or, leave Chicago 10:25 p.m.. arrive Denver 7:50 a.m. the second day. Descriptive book on Colorado and California sent to any address for six cents postage. Folders free.

R. C. JONES,
Michigan Passenger Agent,
32 Campus Martius, Detroit Michigan.

Now is the Time to Order

Your Bee-Hives, Sections, Shipping-Cases, Berry Boxes and Crates for the coming season. By sending a list of goods wanted, we can save you money.

SHEBOYGAN FRUIT BOX CO.,
9-05-4t Sheboygan, Wis.

HONEY JARS

The No. 25 Honey Jar, Porcelain Cover, Metal Screw Cap, absolutely tight, holding one Pound of Honey, in shipping cases of one Gross each.

1 gross lots ..... $4.50 per gross.
5 gross lots..... $4.00 per gross.

Also in strong

Re-Shipping Cases

of two Dozen each, with heavy corrugated partitions, sides, top and bottom—a perfect protection.

1 case lots..... $1.00 per case.
5 case lots..... .95 per case.
10 case lots..... .90 per case.

F. O. B. New York—Prompt shipment on receipt of order.

TUMBLERS

Eight-oz. Tumblers, tin caps, 3 dozen in re-shipping case.

5 case lots, per case of 3 doz., .85 cts.
10 case lots, per case of 3 doz., .80 cts.
20 case lots, per case of 3 doz., .75 cts.

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NEW YORK, N. Y.



About Bees and Bee Farming.

Well, in the Southwest, in many localities along the Santa Fe lines, they have regular establishments for raising honey, and many of them are "Bee Ranches" and nothing else. It is the only business where all you get is clear profit off of other people's fields and flowers; and they don't object. Alfalfa honey is unequaled, and commands the highest price. Nearly all the Santa Fe Southwest is an alfalfa country.

GENERAL COLONIZATION AGENT,
1117 Railway Exchange, Chicago:

Santa Fe

Please send information as per ad in BEE-KEEPERS' REVIEW.

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Address .....

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VIRGINIA QUEENS.

Italian Queens secured by a cross and years of careful selection, from Red Clover Queens and Superior Stock obtained from W. Z. Hutchinson.
Untested queens, 75c; after June 15, 60c
Tested queens, $1.00; after June 15, 75c
Selected tested queens, $1.25; after June 15, $1.00.

Write a postal card for circular.

CHAS. KOEPPEN,
6-04-tf Fredericksburg, Va.

Good Queens

and bees cost no more than poor ones. We furnish good ones on short notice. Untested, 75c each; $4.00 for 6; or $7.50 per dozen. Tested, $1.25 each. Breeders, $3.00.

Nuclei, 1-frame, with queen, $1.50; 2-frame, $2.00; 3-frame, $2.50. Absolute satisfaction or no deal We breed six pure races. Price list describing them free. We are agents for the Dittmer comb foundation for this State and sell at Dittmer's prices. If you wish your wax worked into foundation for cash we will receive same and furnish you the foundation from our stock; which will save you much time and freight,

THE BEE AND HONEY CO.,
2-05-tf Beeville, Tex.

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-01-f1 147-149 Cedar Lake Road

Paper Cutter For Sale.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON, Flint, Mich.

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

—If you are going to—
BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

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All about Bees. 16-page Weekly. Sample Free. $1 a year; 3 months' Trial Trip, 20c. silver or stamps. Best writers. Oldest bee-paper; illustrated. Dept's for beginners and for women bee-keepers.

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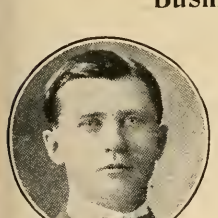
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Complete Modern Apiary For Sale.

200 colonies Italian bees, in L. hives; combs built on full sheets of foundation, wired; ample stores for winter; complete sets of fixtures for producing both comb and extracted honey. Will sell entire, or parcel out, to suit purchaser. Price very low Buyer donated lease of place Nov to Apr., if desired. Best white honey location in Albany Co., and fair for buckwheat. Fine local trade Write for particulars if you mean business.

9-05-1t **J. D. BIXBY,**
Altamont, N. Y. R. F. D. No. 2.

GINSENG.

10,000 select roots for sale for planting, at $5.00 per 100; also ginseng seed at $1 50 per ounce. or $20.00 per pound. As I prepare it 98 per cent. of this seed will germinate. No reduction on large orders. My 5-year old roots will average from one to two ounces when dry, and the August quotations for dry roots are $8.00 per pound. Complete directions for planting and care of beds will be sent with each order. The work will not conflict with apiarian work Address,

EUCLID RIDGE APIARIES,
Wickliffe, Ohio.

I Will Buy

a few tons of honey and pay cash at your depot. Correspondence solicited. Give full particulars as to quality, price wanted, etc. If satisfactory I will call on you. A. W. SMITH,
9-05-2t Birmingham, Mich.

LEARN TELEGRAPHY and R. R. ACCOUNTING.

$50 to $100 per month salary assured our graduates under bond You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials **Operators always in demand**. Ladies also admitted. Write for catalogue.

MORSE SCHOOL OF TELEGRAPHY.

Cincinnati, O., Buffalo, N. Y., Atlanta, Ga., La Crosse Wis., Texarkana, Tex., San Francisco, Calif. 8-05-4t

WANTED comb honey. State price and quantity.
C. H. W. WEBER, Cincinnati, Ohio.

A Renewal Offer.

The beginning of the year is always a busy time with publishers. Not one of them that would not give quite a little if all renewals would come in before the end of the year, then all changes could be made, and be out of the way, and the attention turned to something else. As an inducement to subscribers to renew before the end of the year, I have decided to make a generous clubbing offer with the Cosmopolitan magazine.

In my opinion, this magazine stands in the front rank. It is not simply given to light fiction, but contains many serious and really helpful articles. I have read it for years, and, of the magazines, I think it is my favorite. It has now been sold to the Hearst Organization, and will be boomed as it never has been before. It is expected that, within a year, it will outrank every other magazine in this country. "The best, no matter what it costs," is to be the motto of its editors; therefore, it is in the Cosmopolitan that you will find the writers of world-wide reputation. Its fiction will be masterpieces of pen-craft—its whole contents will set the standard for magazine perfection. The price of the Cosmopolitan is $1.00 a year, and the Review is $1.00, but if you will renew your subscription to the Review *before the end of the year*, I will send you the Cosmopolitan for only 60 cts. That is, if you will send your renewal to the Review before the end of the year, $1.60 will pay for the Review and the Cosmopolitan for one year.

W. Z. HUTCHINSON, Flint, Mich.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers. Large and complete stock on hand at all times Low freight rates Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Now is the time to prepare for next season,

If you want to Save Money

on Foundation, working wax for cash, and on a full line of supplies. Write for prices and di-counts, and samples of our Superio- Foundatio$_n$.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

The Bee & Honey Co., Beeville, Tex. Agents for Tex

Gus. Dittmer,
Augusta, - - Wisconsin

1 1-2 STORY,

8-frame hives, either plain, or bee-way supers, $1.00. No. 1 sections, $4.00 for 1,000. 24 lb shipping cases, $13.00 for 100; 12 lb $8.00 for 100; 20 lb Danz., $11.00, for 100. Hives, sections, foundation, etc., by the car load. Berry boxes, baskets, crates, etc. kept in stock. One year's subscription to any bee journal free with order of $10.00. Send for free list.

W. D. SOPER
R. D. 3 Jackson, Mich.

ITALIAN QUEENS

Golden Italians, Long Tongue Italians, Silver Gray Carniolans. Untested 50c, tested 75c
One of these will carry your colony safely through the winter—get one now.

C. B. BANKSTON,
Milano,
05-5-tf Milam, Co., Tex.

For Sale or exchange, 450 colonies of bees, locations, and all fixtures complete for comb or extracted honey.
S. W. WEEKS, Delta, Colo.

The Bee-Keepers Paradise.

300,000 Acres of Wild Land for sale, in the Famous Fruit Belt Region of Michigan, at low prices and on easy terms.

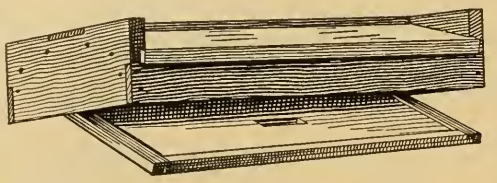
These lands are especially adapted to fruit culture, all the most desirable fruits being cultivated with especial success.

These uncultivated lands also produce immense quantities of wild berries, from which large crops of honey are obtained, at a good profit to the Bee-Keeper.

Write for particulars and circulars. "No trouble to answer letters."

Address:

J. E. MERRITT,
Gen'l Mgr.
Michigan Land Co.,
Manistee, Michigan.



COLORADO HIVE COVER.

SATISFACTION

To the bees and SATISFACTION to the bee-keeper is the aim and object of the manufacturer whose name appears with this ad.

The Colorado Cover is a double cover with air space—the outside cover is made from full ⅞ inch white pine. It cannot leak, it cannot warp, it retains the heat of the colony so necessary in early spring, and it is impenetrable to heat in the hottest climate.

PRICE—1 nailed—40c. 10 in flat $3.00.

UP-TO-DATE Bee-Hives, Sections, Fences, Smokers, Foundation Comb, Bee Veils, Gloves and all kinds of Bee-Hives and Supplies, manufactured and for sale. Car lots a specialty.

Flint, Mich., Apr. 17, '05.

Friend Putnam:—

Yours saying that you would send the sections in a few days is here. Thank you.

Ever since nailing up those hives, I have felt like writing and thanking you for the excellent material and workmanship. The lumber is practically clear lumber, and the workmanship simply perfect—everything smooth and accurate. If every shipment that you send out is like this, you will eventually have more business than you can look after.

Yours Truly,

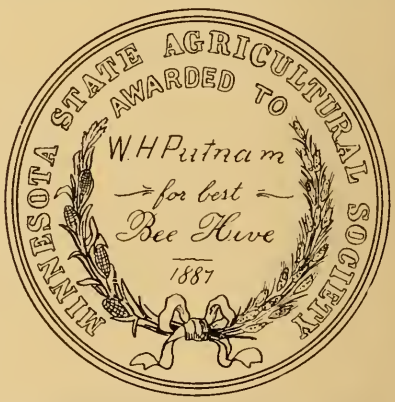
W. Z. HUTCHINSON.

OUR NEW POLICY.

Now is the time to make plans for 1906. Our plan is to establish a branch house at every country town. Write for particulars.

The Rural Bee-Keeper better than ever this year. Write for sample copy.

Join our EXCURSION PARTY to San Antonio, Texas. Leaves Chicago, Oct. 25th. Round trip $20.00.



The RUSH season is over. We have a good supply of Standard Goods on hand. We cater to the trade that demands QUALITY. We give value received and PROMPT SHIPMENT.

W. H. PUTNAM, River Falls, Wis.

Honey Quotations

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent when a shipment sells for as much as one hundred dollars.

NEW YORK—New crop of comb honey is now arriving in a small way and fancy stock finds ready sale at 14 to 15c per lb., No. 1, at 12c to 13c, and amber at 11c. No buckwheat on the market as yet. Extracted is in good demand, and we quote California at 6 to 7½ per lb., according to quality. Southern at from 55 to 65c per gallon. White clover at 6½c to 7c per lb. Beeswax, at 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Sept. 7, 1905. New York.

CINCINNATI—There is little to report since our quotation two weeks ago. The supply of both comb and extracted honey, is fair, and the demand is good. We offer extracted honey as follows: Amber honey in barrels and cans at 5¾ to 6½c, respectively. White clover honey at 7 to 8½c. Fancy white comb honey at 12 to 15c. Beeswax, 29c.

THE FRED W. MUTH CO.
Sept. 7-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—Demand is improving for 1 pound comb, and moderate shipments are advised. Other grades moving slowly. We quote as follows: Fancy white, 14 to 15c: No. 1 white, 12 to 13c; fancy amber, 10 to 11c; No. 1 amber 9 to 10c; beeswax 25 to 30c

BATTERSON & CO.,
Aug. 31, 1905. Buffalo. N. Y.

TOLEDO—The demand for comb honey at this writing is rather normal on account of the heavy receipts of fruits. Fancy comb honey is selling in a retail way at from 14 to 15c; No. 1, 13 to 14c, with demand for amber. Extracted in barrels, 6½ to 7c, cans, 7½ to 8½c. There is a good demand for amber in barrels which brings from 5¾ to 5½c, according to quality Beeswax, 26 to 28c.

GRIGGS BROTHERS,
Sept. 5, '05 Toledo, Ohio,

KANSAS CITY—Market extremely firm, with prospects of higher prices—local crop only fair. We quote as follows: Fancy white, 12½c; No. 1 white, 12c; fancy amber, 11½c; No. 1 amber 11c; fancy dark 10c; white, extracted 6½c; beeswax 25 to 28c.

WALKER-BREWSTER GROCER CO.,
Sept. 9, 1905 423 Walnut St, Kansas City, Mo

CHICAGO—The new crop is appearing and selling in a fair way considering that this is midsummer time. We quote as follows: Fancy white, 14c; No. 1 white, 13 to 13½c; fancy amber, 11 to 12c; No. 1 amber, 9 to 10c; fancy dark, 10c; No. 1 dark, 9c; white, extracted, 6 to 7c; amber, extracted, 5 to 6c; dark, extracted, 5 to 5½c, beeswax, 28c.

R. A. BURNETT & CO.,
Aug. 3, 1905 199 So. Water St.

CHICAGO—We are having an excellent call for new comb honey. First car of California white comb in No 1 sections, arrived yesterday, containing 1760 crates. Sold about half the car today at 13½c to 14c. We quote as follows: Fancy white, 14c; No. 1 white, 13c to 13½c; fancy amber 12½c to 12½c; No. 1 amber, 11c to 12c; white, extracted, 6½ to 7c; amber, 5¾ to 6c.

S T FISH & CO,
189 South Water St.
Sept. 14, 1905. Chicago, Ill

KANSAS CITY—Honey market shows a decided improvement and is firm at the following prices. We look for steady market for some time. We quote as follows: Fancy white, $3.00 per case; No. 1 white, $2 85 to $3 00 per case; white extracted, 6½c; amber 4½ to 5½c Beeswax, 28c

C C. CLEMONS & CO.,
Sept 8, 1905 Kansas City, Mo.

---

50 QUEENS

that have just begun laying, are now in my nuclei ready for immediate shipment, at 75 cents each; six for $4 00; or $7.00 a dozen. No disease here. Satisfaction guaranteed.

S. F. TREGO,
8-05-3t Swedona, Ills.

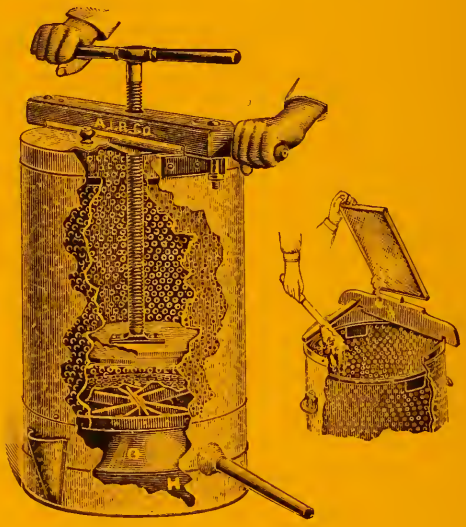
A RECORD.

An imported queen received Aug. 15, 1904, has this season, up to date (July 15th, '05), produced almost 200 lbs of extracted honey. She has the largest colony, the gentlest bees and the greatest hustlers I ever saw. Just think of the long journey, and then to accomplish such results. You can have queens from her for 75c, untested; and $2.00, tested.

The Wood Bee Hive and Box Co.,

Lansing, Mich.

WAX WASTE



Save your old combs, scraps of wax and slumgum, then, instead of allowing these to scatter or become worm-eaten, or render in a wasteful method, obtain a German Wax Press and save every particle of wax. You will be surprised at what you can obtain and profits make. Our German Wax Press can be converted into an uncapping can or be used as a honey-press, thus for the price of one you have three almost indispensable machines for your apiary. The machine is built to stand the requirements in every particular and the best principle is used—steam. ***Price, $12.00.***

Before closing I wish to say Mr. E. R. Root is right when he says 'You can't get over 50 per cent. of wax until you use a first-class press." And I want to say that, when you get a machine get a German. They are neater, can be used on the kitchen stove; they make fine uncapping cans or honey presses and will be the most satisfactory in the end. I will trade my home-made outfit if I get a chance."

N. Y., Aug. 9, '05. PERRY ORTON.

DISCOUNTS

For cash orders before	Oct. 1	10	per cent.
" "	Nov. 1	9	"
" "	Dec. 1	8	"
" "	Jan. 1	7	"
" "	Feb. 1	6	"
" "	March 1	4	"
" "	April 1	2	"

This discount is only for cash before the dates named, and is intended to apply to hives, sections, frames, foundation, extractors, smokers, shipping-cases, cartons and other miscellaneous bee-keepers' supplies for next season's use.

THE A. I. ROOT CO., MEDINA, OHIO

October, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 213

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Oct. 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1 00)	$1 75
American Bee Journal, (new)	(1 00)	1 75
Canadian Bee Journal	(1.00)	1 75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(1 00)	1.75
Western Bee Journal	(1.00)	1 75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1.85
The Century	(4 00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3 15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1 00)	1 75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

J U. HARRIS, Grand Junction, Colo.
President.

C. P. DADANT, Hamilton, Ill.
Vice President

W. Z. HUTCHINSON, Flint, Mich.
Secretary,

N. E. FRANCE, Plattville, Wis.
Gen. Manager and Treasurer

Board of Directors.

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R. L. TAYLOR, Lapeer, Mich.
UDO TOEPPERWEIN, San Antonio, Tex.
R. C AIKIN, Loveland, Colo.
P. H. ELWOOD, Starkville, N. Y
E. WHITCOMB, Friend, Neb.
WM. A. SELSER, Philadelphia, Pa.
G. M. DOOLITTLE, Borodino, N. Y.
R. A. HOLEKAMP, St. Louis, Mo.
J. M HAMBAUGH, Escondido, Cal.
C. A. HATCH, Richland Cen., Wis.
C. C. MILLER, Marengo, Ills.

Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest States) and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	6
Ark....	82	Kans..	350	New Mex.	5
Ala.. .	80	La.....	38	Oregon..	10
Calif...	378	Mo.....	500	Ohio...	130
Colo...	228	Minn..	334	Penn....	61
Canada	1200	Mich...	1770	R. I....	4
Conn..	162	Mass...	275	S. C.....	4
Dak...	25	Md.....	94	Tenn....	17
Del....	18	Maine	270	Tex.....	2
Fla....	100	Miss...	70	Utah.....	6
Ga.....	90	N. Y...	1700	Vt.....	20
Ind....	744	Neb.....	345	Va.....	18
Ills....	1375	N. J.	150	W. Va....	12
Iowa..	800	N. H.	158	Wash....	12
				Wis.....	60

W. Z HUTCHINSON, Flint, Mich

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
SPROUT BROOK, N. Y.

BEE KEEPERS' EARLY DISCOUNTS.

Now is the time to send in your order for goods for use next season and for all orders where cash accompanies, we allow the the following discounts:

Before	Oct. 1	deduct	10	per cent.
"	Nov. 1	"	9	"
"	Dec. 1	"	8	"
"	Jan. 1	"	7	"
"	Feb. 1	"	6	"
"	Mar. 1	"	4	"
"	Apr. 1	"	2	"

Freight rates from Toledo are the lowest. Can take honey and beeswax in exchange for supplies if you desire Send for free illustrated catalogue. It describes and illustrates everything for both the Poultry and Bee-Keepers.

GRIGGS BROS.

521 Griggs Block

TOLEDO, - - OHIO.

Lowest Prices.

BIG DISCOUNT FOR EARLY ORDERS.

		On cash orders
Before	November	19 per cent.
"	December	18 " "
"	January	17 " "
"	February	16 " "
"	March	14 " "
"	April	12 " "

Bee Supplies of all Kinds.

Established nearly 25 years.

We have published the American Bee Keeper for 15 years, (monthly 50c a year) The largest and best illustrated magazine ofits kind for the price published. Edited by two of the most experienced bee-keepers in America Sample copy free. Our large, illustrated price list of supplies free on application.

The W. T. Falconer Mfg. Company,
JAMESTOWN, N. Y.

Discounts for Early Orders

The following large discounts are offered for early orders accompanied by cash. This applies to all goods excepting honey packages for current use.

For cash orders before—

Oct. 1st, 10 per cent. Nov 1st 9 per cent
Dec. 1st, 8 per cent Jan 1st, 7 per cent.
Feb. 1st, 6 per cent. Mar. 1st, 4 per cent.
April 1st, 2 per cent.

The following are Distributing Points for Lewis Goods:

E. T. Abbott, St. Joseph, Mo.
Wis. Lumber Co, Fairbault, Minn.
Dadant & Sons,, Hamilton, Ill.
C. M. Scott & Co., Indianapolis, Ind.
Fred W. Muth Co., Cincinnati, O.
Norris & Anspach, Kenton, O.
A. G. Woodman, Grand Rapids, Mich
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hansen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co. San Antonio, Texas., 438, Houston St.
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa.
Colorado Honey Producers Association, Denver, Colo
Fruit Growers' Ass'n., Grand Junction, Colo.
Arkansas Valley Honey Producers, Association, Rocky Ford, Colo.
R. C Aikin, Loveland, Colo.
Paul Bachert, Acton, Calif.
Chas. H. Lilly & Co., Seattle, Wash.
Fred Foulger & Sons, Ogden, Utah.
A. Colpin, Wenona, Ill.
California, Lumber & Milling Co., San Francisco, California.
C. B. Stevens & Co., Havana, Cuba.
E. H. Taylor, Welwyn Herts, Eng.

Bee-Keepers' Supplies. **G. B. LEWIS CO.,** Watertown, Wis., U. S. A.

Make Your Own Hives.

Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

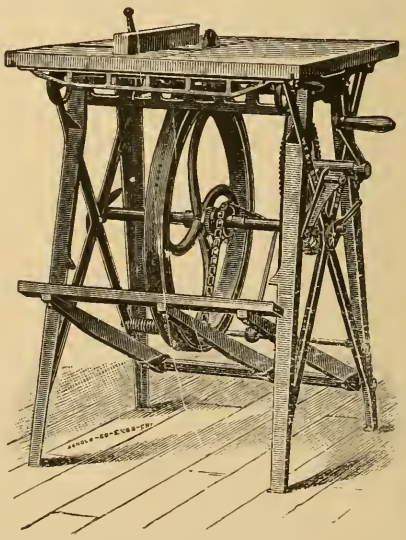
Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,

384 Ruby St.,

Rockford, Ills.

4-04-19t



Superior Stock

Is the name under which Mr. Hutchinson, for five years, sold my strain of bees, guaranteeing safe arrival, safe introduction, purity of mating, and entire satisfaction to the extent that the queen could be returned any time within two years, when the money would be returned, together with 50 cts extra to pay for the trouble. Although he sold hundreds of queens each year, in only two instances was he asked to return the money, while there were hundreds of letters from pleased purchasers. Not more than half a dozen queens were reported as impurely mated, in all of those years, while the losses in transportation and introduction were not serious; yet, on account of those guarantees, Mr. Hutchinson asked $1.50 for a queen. I can now sell you queens that are *exactly the same*, and guarantee safe arrival anywhere in the U. S., Canada, or Cuba, at the following prices: Untested, 75c each; six, $4.00; 1 doz., $7.50. Select Untested, $1.00 each; six, $5.00; 1 doz., $9.00.

Send for a handsome circular that gives the experience of well-known bee-keepers with this stock.

J. P. MOORE, Morgan, Kentucky.

10 % Discount

We will allow you the above discount on all orders accompnied by cash during October. Send for Catalogue.

Page & Lyon Mfg. Co., New London, Wis.

Bee Supplies.

Send for 40 Page Catalogue describing Improved Hives. Supers and Everything needed in the Apiary.

Special low prices on Brood Frames and Shipping Cases. Beeswax wanted.

Best Goods at Lowest Prices

O. H. HYATT, Shenandoah, Iowa.

2-'05-tf

HONEY QUEENS

LAWS' ITALIAN and HOLY LAND QUEENS. Plenty of fine queens of the best strains on earth and with these I am catering to a satisfied trade. Are you in it? Or are you interested.

Laws' Leather and Golden Italians, Laws' Holy Lands.

These three, no more. The following prices are as low as consistent with good queens. Untested, 90c; per dozen, $8.00; tested $1.00; per dozen, $10. Breeders, the very best of either race, $3.00 each.

W. H. Laws, Beeville, Tex.

"DADANT'S FOUNDATION"

IT EXCELS.

We Guarantee Satisfaction.

BEE=SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

A. G. Woodman, Grand Rapids,
Agents for Michigan.

DADANT & SONS, Hamilton, Ill.

WANTED

FANCY COMB HONEY IN NO=DRIP SHIPPING CASES, ALSO EXTRACTED HONEY. IF YOU HAVE ANY TO OFFER, QUOTE US YOUR ROCK BOTTOM CASH PRICE DELIVERED HERE, AND MAIL US A SMALL SAMPLE OF THE EXTRACTED HONEY. WE BUY EVERY TIME THE PRICE IS RIGHT, AND REMIT PROMPTLY.

THE FRED W. MUTH CO.

No. 51 WALNUT STREET, CINCINNATI, OHIO.



Sections Cut Cornerwise for Sale at Fairs.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, OCT. 15, 1905. NO. 10.

Canadians Make Market Places of Exhibits at Fairs.

W. Z. HUTCHINSON.

I WENT over to Toronto, Ontario, in September, and awarded the premiums in the bee department of their International Fair. The fair grounds are located upon the shores of Lake Ontario, and laid out and beautified with gravel walks and drives, velvety lawns, trees, shrubs and flowers. It really seems more like a park than an ordinary fair ground. Most of the buildings are in keeping with the grounds, although as much can't be said of the one devoted to bees and honey. It is lacking in size, and far from being substantial in character. No exhibitor can be given as much space as he desires, and some are prevented from exhibiting because of the lack of space. The Canadians, however, make good use of what space is allowed them, putting up very attractive exhibits. I spent a share of nearly two days in making the awards, and even with all of this care there was an occasional instance when it seemed impossible to do exact justice—when two or more exhibits seemed equally meritorious.

SELLING "HONEY ON A STICK."

Not only are the Canadians good exhibitors, but they have learned how to improve this golden opportunity for marketing their product at a good price. I had often heard of the manner in which they sell their section honey, particularly the sections that are not quite finished, by cutting the comb diagonally, from corner to corner, also cutting the film of wood that joins the sections at the corners, thus separating each section into four, triangular pieces, each piece having a strip of wood attached to one side. These pieces are laid upon a rack of tinned wire laid over a neat glass dish that catches the drip. These pieces are sold to visitors at five cents each, being laid upon a small piece of paper when delivered. The honey is, of course, eaten upon the ground, the piece of wood furnishing a most convenient

handle to hold it by. When a section of comb is cut up in this manner, the visitors look on with interest, and, when it is finally divided, the supreme moment of attractiveness seems to have arrived. The contrast between the snowy whiteness of the sealed surface, and the golden dripping sweetness of the interior, as the pieces come apart, and are spread out upon the rack over the dish of crystal glass, is something so delicious as to be simply irresistible, Even ladies in silk dresses and kid gloves, laugh and joke with their mustached attendents, as both parties make way with the dainty bits of sweetness. And then the boys and girls—well, it must be seen to be comprehended. I was told that one exhibitor sold $70 worth of honey in this way, in one afternoon, and I can well believe it. One exhibitor told me that he had sold his entire crop of honey in this manner at the fair. You will notice, too, that the honey brings 20 cents a section when sold in this manner. When I told them that I had never seen anything like it at our fairs on this side of the line, there was great surprise, and exclamations that the Canadians were certainly ahead in some things.

BEAUTIFUL PACKAGES FOR EXTRACTED HONEY.

But this is not the only form in which honey is sold at the Canadian fairs. Extracted honey is put up in small glass bottles of fancy shape that can be sold for five cents. It is put up in little toy, glass lanterns; in glass "revolvers," in vinegar cruets, molasses pitchers, tin pails, etc. By the way, I saw the most handsome tin pail for honey that I have ever seen. The cover is of the friction top style, but, instead of pasting on a paper label that may come off or become soiled, the label is enameled right on to the surface of the pail. I brought home two of the pails and made a photograph of them. The ground work is of a pale cream color. The shading back of the letters forming the word "Honey," all of the other letters, except the producer's name, and the clover blossoms are a dark blue; the bee, the word "Honey," the border around the ornamental work on the back of the pail, are all of gilt. Part of the bee, and



some of the ornamental work on the back of the pail is yellow. The colors all harmonize exceedingly well; in fact, it is the most handsome tin package that I ever saw for putting up honey. The beauty of it is that it will *remain* handsome, as the colors are burned, or baked, upon the tin the same as the finish is baked upon a bicycle frame. There are three sizes, 3-lb., 5-lb., and 10-lb. The cost, if I remember correctly, is 6, 7 and 9 cts., respectively. The reading matter upon the pail is excellent. It is not so long that it won't be read, yet it contrives to say the most important things that ought to be told to the consumer. Here is the reading matter:

Why Eat Honey?

Because it is good food and good medicine. No article of human consumption is more delicious than honey, and none is more beneficial to the human system. Honey is food in one of its concentrated forms.

It is used in medicines, and is the base of many of the cough cures and salves. For candy, honey is far more wholesome than sugar.

What is Honey?

It is a vegetable product, not made but gathered from the nectaries of flowers. Each kind of flower yields honey of its own peculiar flavor, which is generally easily recognized.

THIS HONEY

Is Guaranteed Pure.

Our apiaries are located around St. Thomas, Ont., Canada, and the Santa Cruz mountains, Jamaica, B. W. I.

Our annual exhibits of honey at the Canadian National Exhibitions since 1887, the Pan American Exposition 1901, and the St. Louis World's Fair 1904, have received the highest awards.

All pure honey will granulate or candy sooner or later; this is a fine test of its purity. To liquefy, set the can in warm water, no hotter than the hand can bear; many, however, prefer it in the candied form.

Keep honey in a dry place and it will not sour, mould or ferment, even though left open.

Mr. Smith says that the bee on the pail is becoming almost the equal of a trade mark. He says that people will come along and exclaim: "Oh, here is that honey with a bee on the pail, just like that we bought last year. We must have some more of that as it was the best honey that we ever had."

United States bee-keepers certainly can learn a most valuable lesson from their Canadian brethern in regard to reaping a harvest of sales at fairs. Not only do the sales help the men who make them, help them immediately, but it spreads broadcast the knowledge of the sweetness, and deliciousness of honey. Everyone who gets a taste of that "honey on a stick," remembers it and wants more.

WHAT WELL-TRAINED NATURAL ABILITY CAN DO.

I hope I may be pardoned for what I am about to tell. It has no direct bearing upon bee-keeping, except that it shows what a well-trained natural ability will enable one to do. Mr. E. Grainger, who was superintendent of the bee-department, is also a florist. When it was nearly noon, one day, his man came to him and said: "We have got those plants over there, and have done the best we can with them, but they don't show up the way they ought to. The superintendent says everything not in readiness by one o'clock will be thrown out, and I wish you would come over and see what you can do." There is just enough of the artist in my make-up to induce me to go along and see Mr. Grainger arrange those 50 varieties of cut flowers. They were sitting in a square upon the floor, tall and short plants mixed together, and oh, how some of the colors were "swearing" at one another. Mr. Grainger glanced over the lot and said: "Those at the back need raising up a little. Bring me some empty flower pots." Plants low in stature and tone of color were placed in front. Then there was a gradual rise is height of

plant and in brightness of color, until the back row flamed up with the grand, gaudy Gladiolas. It was truly a transformation scene. Each plant possessed a beauty of its own, but, in the proper combination, each plant helped add to the beauty of those near it. Twenty minutes of work—and it did not seem possible that I was gazing at the same lot of flowers. What I especially admired was the *ease* with which all of this was done. There was no trying for effect—to see if it would look well this way or that way. Mr. Grainger simply said: "Put this pot there, put this one over in that corner, raise up that Coxcomb a little higher," etc., and when the changes had all been made, he gave it one comprehensive glance, and we walked on.

FLINT, MICH., Sept. 19, 1905.

Make Your Business a Specialty That Occupies all the Year.

R. C. AIKIN.

FRIEND HUTCHINSON, it seems you are still harping on the string that sings the tune of more bees and out-apiaries. I wonder if you, or any of your readers, really know *why* we ought to keep more bees, or *why* we ought to enlarge in *any* kind of business.

DON'T HAVE THE EGGS ALL IN ONE BASKET.

Away back in the early volumes of the Review, when you had specialism as one of the topics, I argued that when one could not afford to risk his life in one thing, that is, if a man was poor, and could have only a small business, and must have the income from his labor month by month to live upon, it was best to have the eggs divided so that in case one basket fell he did not lose all. I still consider that good advice; but I still advise just as I did then, that every one should strive to *excel* in some one *line* and make that his *specialty*. The poor man with children to feed, and nothing ahead to put into a business that he can afford to miss its *annual* income, takes a very heavy risk that may cause him to lose his all.

As business is carried on these times, so long as there must be a change of product between distant parts of the country, there must be middlemen and transportation that seriously effect every producer more or less, and is hardest by all means, on the poorer and those of limited means and limited production.

KNOW SOMETHING OF EVERYTHING AND EVERYTHING OF SOME ONE THING.

All things considered, when a man has chosen a line of business that shall be his specialty, and that in which he proposes to excel, or become more than ordinarily proficient, the wise business policy is to *enlarge* in that one thing, possibly dropping all else, that he may give his entire time and attention to his specialty. I say give his entire time, but I do not mean that he is to *think* of nothing else, or to *do* nothing else; man is so constituted that if he does not use all of his faculties and powers he will surely become one-sided and weak, both mentally and

physically. Good health and enjoyment of life, and our friends' enjoyment of us, demand that we round out our lives by using all our powers; and in so doing we better fit ourselves to make a success of our chosen line of business as well as help to better the condition of others.

While it is true that to specialize makes our chances of business success much better, there are other reasons why we should do so. The fact is, we are almost *compelled* to do so, because of the trend of all lines to combine; and because it is a fact that the great *producing* fields are not *consuming* ones, and to get the product to those who want it there must be large quantities massed for shipment, to induce buyers to go to these points after it, and the transportation companies to provide means for properly handling it. If we would not be at the mercy of all the go-betweens, we must produce largely and get as near the consumer as possible the same as the manufacturer of such things as we need.

Co-operation of small producers may and can accomplish the elimination of some of these difficulties, and it is the most humane and rightous way; we ought to do it that way; but even with co-operation bringing together the small producers into a systematic and reasonable way of both buying and selling, when one grows in knowledge and ability to produce more and better, the most reasonable thing to do is to spread, use your ability to produce; but do not make use of your power to pull down others.

This is a long prelude, but when we understand *why* we are to do a thing, it will be easier to understand *how* to do it. And, too, it is a fact, that when one enlarges and puts out apiaries here and there, he has many things to learn, and different methods to practice from that employed in a little home-apiary run in connection with some other busniess. And there can be no set rule to govern in the locating of these out-yards; the topography of country, pasturage, obtaining of sites, and the getting to and from, all have to be considered—there will be scarcely any two fields alike.

It is evident to me that the character of weather-conditions, and lay of country, have much to do with the flight of bees; I feel sure my bees range over two to four miles from the yard; I have trustworthy evidence that bees in this country have done excellent work going four miles. I make it a rule to put yards from two to four miles apart, getting them in good territory, and in protected places for yard-location. When I find a part of the country in which I wish a yard, I try to find a spot easy of access by wagon, where a team can be driven close to the bees, yet far enough from the farmer's house, barns, roads or fields, where teams will be used, so there will be no inconvenience to him in his affairs. I take entire charge of the bees at all times, so far as management and care goes, asking nothing of the farmer, save that he will endeavor to let me know it he sees anything wrong, and, for the privilege of getting in and out, and the use of the spot of ground, I give from 50 to 100 pounds of honey annually; sometimes in a poor year, only 50 pounds—the quantity is gauged by the profitableness of the season rather than by the size of the yard. It would probably be better to have a fixed amount for use of the ground, and keep few or many bees as you like, regardless of the crop.

THE HOME-YARD A CENTRAL DEPOT.

As to the number of colonies in the home-yard before starting an out-yard, that brings up the question of overstocking, a thing we cannot possibly settle by any rule. Then, too, there is the question of a suitable place for the bees at home, and other considerations. I live in town where I have my

honey house and shop, as well as a big, solar, extracting outfit, and everything in the way of equipment that has to do with all work that is possible to do at home. It matters not whether it is extracted, or comb honey, all comes home as soon as it comes off the hive, to be extracted, cleaned and cased—all such work is done *at home*. I have been keeping from 50 to 150 at each yard and aim at about 100, usually. Robbing is worse where great numbers are kept in one place, I think the average field will be better worked by 100 than by a greater number. I am now planning to use the home-yard more as a nursery and hospital than for anything else; it is the best place to care for foul brood, to build up nuclei, rear queens, etc. When at the out-yards I find any colony that needs special care for any reason I just bring it in when coming home; and, likewise, when the home-apiary becomes too full, just haul out from time to time as trips are made to out-yards. A fine way to make increase is to bring in from the out-yards a few bees in a cage made specially for such work, and if you have queens, either out or at home, they can be dropped into these cages, and all hived into such hives as you wish, and you have a nucleus and a queen introduced, and all will "stay put." In like manner, nuclei may be formed at home and taken to out-yards to grow to full colonies.

The great majority of writers do not write from the standpoint of bee-keeping as a special and *exclusive business*, hence the common advice to increase by natural swarming is not good—rather is not practical. Until a man is capable of making increase, doing it *well*, by division and the nucleus plan, he is not capable of handling, successfully, either a large apiary or several apiaries. It is one of the essentials to the successful handling of bees, and, above all, of out-yards, that, barring crop failures, when there is not flow enough to build up nuclei or swarms, that the apiarist has the increase matter at his option and command. Out-yards must be handled in such a waythat they do not have to have a man constantly with them in the swarming season, and this brings up the swarming-problem; but, before discussing this, let us speak of the question as to whether we produce comb or extracted.

WHETHER TO PRODUCE COMB OR EXTRACTED HONEY.

As before stated, I extract at home, and, so far as the yards are concerned, they are simply a place to keep the bees; and for convenience in storing supplies I like to have a small shanty at each one, and it is best if they can be bee-tight. After extracting, the combs can be stored there, and this does not require so much room at home nor so much insurance against fire—the eggs are not all in one basket. Hauling everything to the home house, it matters not whether you produce one or the other, that depends on your likes and dislikes and on your market—I produce both. The main difference comes in about that swarming question; it is quite a little easier to control swarming if extracted is produced, but that also is a matter in which the apiarist must be ahead of the bees, and be able to master the situation. If you produce extracted, there will be swarming enough to seriously cut the profits; and running for comb it cuts a little harder; that matter *must* be at the option of the apiarist.

CONTROL OF SWARMING

is the greatest problem, or possibly, I may say is *one* of the greatest. While swarming is a large matter, to know how to get the best work and the most of it is big also; to succeed in both, means thas we must know bee nature. To attempt to control swarming by giving room when producing extracted will not be a success, and to use the

same plan when running for comb gets the best results in neither quantity or finish, and *will not control*. I know of one or two methods that are practical. Unqueening will surely control; but, some seasons, and in some localities, such as have a second or later flow, it damages the crop from the late flow too seriously. The best plan I know of is to *give big room at all times outside the flow*, and if you have conditions that cause swarming *before* the flow comes, take away brood, or, in some other way, keep the conditions such that swarming *will not* occur, and then when the flow arrives shake out and mass the bees, as swarms, hiving on starters. This way make our swarms when we are ready, and what is also of equal importance *when the flow is ready*. When you have swarmed the bees, have queens for such increase as you may make, that not any one is left queenless, and the oldest and poorest queens had best be left with the swarm on the old stand. Put the old hive on a new stand, and let it have a vigorous queen that will fill her hive with brood while there is not enough fielders to clog the combs with honoy; this will insure a rousing colony for a later flow if there is one. So handled there is no question about results, if there is the nectar to be gathered; you master the swarming so that you can go when you please, and it will get the honey if it is to be had. Haul in your crop as it is finished, as you make trips from week to week, and after the gathering is over, scrape, extract, case and market.

Let the winter be the time to get all supplies ready. In spring do yard-work in clipping queens, trimming frames and slicking the hives to make handling easy, look after brooding so as to keep the work going on, keep track of strong colonies that they do not run short of stores or swarm too soon, and get everything cocked and primed for the supreme effort when the flow and swarming comes. Have a sufficient supply of supers and hives so there will be no extracting or such work during the flow and the swarming season. There must be as few things as possible to bother when you are swarming and getting super work started.

I believe in manipulating throughout the spring, previous to the flow, to clip queens, cut off burr combs, work to the outside the poorer combs, to equalize stores, and, in some cases, equalize brood, to see if queens are doing their best, and, if not, to encourage them, to turn combs the other end front when the brood is being spread across the front, leaving the back ends without brood (this is the best way to spread brood) and to keep tab on those that may supersede. The clipping is to prevent swarms from leaving should I be delayed beyond the set time to visit a yard at swarming time, and is a good way to keep tab on the age of queens. A queen that I find without wings in the spring is marked o. q. in the record, and the next spring, when she is still there, with the o. q. record of the previous spring, she is too old. The proper way is to clip all queens in the spring that were not previously clipped, and all that were clipped the previous spring are rated as old and superseded after supplying a colony of bees for *that year's work*, thus each queen does two years' service; 'tis not profitable to keep them longer, because too many fail before the flow the third year.

For this country, we winter on summer stands; a yard established, it stays there year in and out. And as for transportation, if you have railroads, electric, or other means of going, use that which will give *you* the best service. Our roads are mostly good, and such that a good team will haul a ton, on a suitable wagon, with springs, and get over three to five miles an hour, and six to eight when empty.

A light rig is o. k. at times, but, as the honey is to come in, and supplies to go out, most of the transporting can be done when going to do yard work.

Secure help by the year, and have good trusty help that can and will look after details; this is a business of details, and the man who can see and do only one thing at a time is not the man to handle bees for himself or any other one. The business should occupy the help the entire year. To have help six or seven months, and then off somewhere, possibly never to come back, is not satisfactory to either party concerned. Keep enough more bees, and so manage or arrange that everything possible is done outside the honey flow and swarming; let the help have an easy time in the slack season, but be willing to put forth extra effort and long hours when you must make quick time and cover much territory to control swarming. With a large stock of supplies, and the foregoing outlined plan it is possible to very materially increase the amount of stock a given help can handle, and that is where the profit largely comes in. Co operative plan of paying help is good, and to be commended. Hire men of ability by the year, and be sure to have those who have a conscience, and when a man will work to your interest, you work to his as well.

My wagon can be made bee-tight, some yards have no house at all, and my kit of tools goes with the wagon always.

LOVELAND, Colo., Nov. 30, 1904.

Editorial

Northern Illinois and Southern Wisconsin bee-keepers will hold their convention October 17th and 18th in Rockford, Illinois. All interested in bees and honey are cordially invited to attend.

J. M. Hambaugh, of California, asks that no votes be cast for him at the coming election of officers for the National. He thanks the members for the honor that has been conferred upon him, wishes the Association abundant success, but declines to serve further as a Director.

Conventions will soon be the order of the day, and the man who neglects to attend makes a big mistake. Reading, and even practice, won't take the place of the face to face, personal, mixing with men who are following the same occupation as ourselves. It furnishes a stimulus, an up-liting, an encouragement that can come in no other way.

Prof. Cook says, in the American bee Journal, that he does not believe any chemist would be justified in pronouncing upon the source of honey from the percentage of sucrose (cane sugar) which it contains. He says this decision is no guess-work with him but the result of actual test.

Confidence in yourself and business is of the utmost importance. Mr. F. P. Clare, formerly of Ontario, but now living in Illinois, writes that, as he reviews his past 18 years of experience with bees, he can see where he might have doubled his profits, if he had only had more faith in his business.

Swarms hiving themselves right in the apiary, with no intervention from the apiarist, was reported to me this morning by one of my customers. He

began the season with 25 colonies, and there were several hives of empty combs standing in the yard. Three swarms of those that had issued had gone directly into those empty hives without so much as clustering.

Wedding Bells rang out merrily, September 10th, for Miss Bessie Dittmer, eldest daughter of Mr. and Mrs. Gus. Dittmer, of Augusta, Wisconsin, and Mr. Julius Hammer of the same place. The editor of the Review has twice had the pleasure of a visit at the Dittmer home, and well remembers this bright young lady. He wishes her and her fortunate husband a long and happy life.

Poisonous Honey is looked upon by Prof. Cook as a myth. In the American Bee Journal he says that sickness from eating honey comes, probably, from over-eating, or from some individual idiosyncracy of the person who eats it. He tells of a lot of students who were made deathly sick from eating honey: They cut a bee-tree late in the afternoon, when they were very hungry, and ate immoderately, as boys will at such times, and very few escaped punishment for their intemperance.

A Section of comb honey is quite likely to be injured on its way from the grocer to the home of the purchaser, and J. A. Green suggests, in Gleanings, that the thin veneer, wood-separators, "scored," at the right distances, the same as is the case with berry box material, be put in with the cases of honey shipped. The grocer can then easily break these strips in pieces, and each piece will then be of just the right size to place on the side of a section before wrapping paper around it. Mr. Green says that he has used these scored separators for this purpose, and would continue to use them were it not that they must be ordered in larger quantities than he can profitably use.

E. D. Townsend writes, under date of August 17, that he has secured 20,000 pounds of honey; 2,300 of which are comb, and the rest extracted. He now has three apiaries working on buckwheat, and hopes to secure an aggregate amount of 25,000 pounds. He started with 300 colonies, made 150 colonies of increase, and bought 50 colonies, so he will close the season with 500 colonies. He closes his letter with the following: "I have made up my mind that I don't know anything about the prevention of swarming, even in producing extracted honey. Had 50 swarms in one yard—big, little, old and young, all swarmed alike—never saw anything like it."

Carry the Bees into the cellar as soon as it comes cool weather and there is little prospect of their having any more flights. Leaving the bees out for two or three weeks after it has come freezing weather, hoping for that "one more" last flight, is poor management. Even if the flight is secured, nothing particularly has been gained by it. After the bees have settled down into that quiescent state in which they pass the winter, they may as well be in the cellar where the consumption of food is much less than in a freezing temperature.

Caucasian Bees have been praised for their gentleness by the department at Washington, and by those who have visited the department, but some others don't find them very gentle. Carniolan bees have also been pronounced very gentle, but I did not find them so gentle as Italians. As a rule, pure Italian bees are gentle enough for anybody. If the Caucasians possess some qualities that are really superior to those of the Italians, it will be well to consider them, but, on the score of gentleness, we need nothing better than the Italians.

The Point of View has much to do with our ideas concerning any matter. Most truly Mr. R. C. Aikin remarks, in this issue of the Review, that few of the writers in the journals write from the point of view of the extensive bee-keeper—the man with out-apiaries. So many times I remark to myself, when reading the description of a method, "That's all right when a man is in the apiary all of the time, but it won't work in an out-apiary."

Go Ahead. Take another step. Can you winter your bees with reasonable certainty? If not, then learn *why*, and apply the remedy. Can you bring your bees through the spring and have them in the best possible condition for the harvest when it comes? Are you sure there is nothing you can do in this period to increase your crop? I came across a bee-keeper a short time ago who secured a crop far in advance of his neighbors, and the only difference in his management, as far as I could discover, was that he fed his bees between fruit bloom and clover, and when the latter came the combs were full of brood and food, and the surplus went into the supers *at once*; besides, there were more bees to gather it. Are you selling your honey in the most advantageous way? If not, *why* not? If you are managing all of these details in the best possible manner, isn't it possible for you to increase your business? Don't stay in a rut. Think. Go ahead.

The Indigestibility of wax is often mentioned in print, and in a way that is far from beneficial to bee-keeping. It is true that wax is indigestible, but its consumption when eating comb honey is far from harmful—in fact, it is really beneficial. It is in the shape of delicate flakes, and when brought to the temperature of the body is very soft and smooth—would not injure or irritate the most delicate membrane. We cannot thrive upon a too concentrated food. The horse must have hay as well as oats. The human must have something to give bulk to the food, and also a porosity that will allow the gastric juice to come in contact with the bulk of the food. The flakes of wax help to hold apart the particles of biscuit, and make passages for the gastric juice. It may be all right to argue in favor of extracted honey, if that is your belief, but don't talk about the indigestibility of wax as though it were something undesirable.

The Coming Convention of the National, that is to be held in Chicago, the first week in December, promises to be well attended and profitable. While its removal to Chicago was a disappointment to the Texans, I have received several letters from them saying that, under the circumstances, the change was a wise one. Of course, if all goes well, another year we will feel in duty bound to go to Texas, not only this, but we will be *glad* to go. Since the announcement that the convention will be held in Chicago I have received many letters from men who are pleased with the change, as it will allow them to attend. So far as I can see, the convention promises much. Apparently, there are no feuds, no opportunities for squabbles and bickerings; the date comes after the hurry of the season is over; there will be exceeding low rates on the railroads and low rates at the hotel; Chicago is the railroad center of a great honey-producing region; the program is not only varied, but it embraces living, practical topics. I predict that the Chicago convention will be a rousing one; harmonious and full of practical discussion; and one from which men will go home feeling that it was good that they had been there.

Out-Door wintering is often successful with not very substantial packing when attempted in Ohio, Indiana,

Illinois, and other of the Southern Middle States, but this success ought not to be allowed to delude more northern bee-keepers, such as those in Michigan, Wisconsin and Ontario into abandoning the thicker packing of chaff or sawdust. Weeks of zero weather call for thorough protecion. The cellar gives this in the most complete manner, but, if the bees are out of doors, the protection can scarcely be too thorough.

Ignorance regarding honey is more general than many of us bee-keepers imagine. To illustrate: When out at Grand Rapids, Michigan, awarding the premiums at the fair, I started in to show the exhibitors how the Canadians cut up sections cornerwise, and sold each piece for five cents. I had a section nicely cut up, and the pieces laid out upon a plate, when a boy of about 14 came along, and I thought I would try to sell him a piece. After a little explanation, he laid down a nickel, and walked away with a piece of honey. He went as far as the door, stopped, looked at the honey, and then came back in a sort of a sheepish way and asked: "Mister, is this stuff that the honey is in good to eat, too?" Poor boy, it probably was his first taste of comb honey, and whether he could eat the comb, too, or must suck out the honey, or spit out the comb, was to him a problem.

Comb Honey *can* be kept over the winter free from crystalization, or any other deterioration, but it must be kept warm, yes, what some people would call hot. J. A. Green reports in Gleanings that he kept some over and sold it this year at a profitable advance in price, which might not have been the case if Colorado had had a good crop of honey. Mr. R. L. Taylor of Lapeer, Michigan, once kept over a crop of comb honey and sold it the next year at a profit. It was kept in a room having walls filled with sawdust and warmed with a stove. Mr. Green says that the nearer 100 degrees the room is kept the better. I presume this is true, but I doubt if Mr. Taylor's honey room was kept so warm as that. Gleanings questions if the fuel might not overbalance any possible gain, and I presume this would be true unless there was quite a crop of honey, and a material advance in prices—and we are not sure that there will be any advance.

Bottom Boards, according to my experience, are not usually fast to the hive. I doubt if one hive in 100 of those that I inspect through the country has a fast bottom board, but E. R. Root says, in Gleanings, that nearly all of the bee-keepers that he visits have the bottom boards fast so that the hives may be ready to move, either to shift about the apiary, or to move to outyards, or into the cellar. Hives with fast bottom boards are an advantage when we wish to move them to an outyard, but, aside from this, the advantages are all with the loose bottom. In moving colonies about the yard, tight bottoms are not needed. Neither are they needed in putting the bees into the cellar. If pains are taken a day or two in advance to see that the bottom boards are not stuck fast to the hive, the hive raised at the end thus causing the cluster of bees to draw up among the combs, a hive can be picked up quietly, and quickly and carefully carried to the cellar, and put in place before scarcely a bee knows what is going on.

Disturbing Bees when putting them into the cellar is strongly condemned in Gleanings by Mr. W. S. Grow. He takes pains to put a large tooth pick under the corner of each hive that the hive may not be stuck down and come loose with a snap when it is picked up to be stacked up in the cellar. He pre-

fers to have snow on the ground that he may use it to stop up the entrances. He is careful that the man who helps him carry the bees in on a carrier shall *keep step* with him, and thus not give the bees the least jar. He thinks if the bees were put in with a rush and a bang, waking them from their slumbers and causing them to fill their sacs with honey, that he would have "polka dot" hives and bushels of dead bees by mid-winter. While the carrying in of the bees in this careful manner does no harm, I feel just as positive as friend Grow that nothing is gained thereby. The first issue of the Review discussed this very topic of disturbance of bees in winter, and the evidence was overwhelming that the disturbance did no harm. I could fill page after page with accounts of instances in which disturbance did no harm. Here is one: I bought four colonies of bees a year ago, and brought them home in a wagon, some 15 miles, just before it froze up. They were put into the cellar with no opportunity to fly, and wintered *perfectly*. "Polka dot" hives and bushels of dead bees come from something more serious than the manner in which the bees are put into the cellar.

National Honey Labels.

Mr. N. E. France, Manager of the National Association, has gotten out some very neat, colored honey labels, printed in six colors, for use on honey pails or cans. The size for use on the 2-lb pail costs only $2.50 per 1,000, including the printing on of the name and address of the producer. The 3-lb. size is $2.00 a thousand—2-lb. size, $1.75. Add 25 cts to each order for packing and shipping. No order accepted for less than 500 labels of one size. Prices are 50 cts per thousand less if the space for the name is left blank. Of course, these labels are furnished to members only, and the label states that the producer is a member of the National Bee-Keepers' Association, but the Association does not guarantee the honey.

Employ Well the Winter Months.

A few days ago a bee-keeper in California sent me samples of queen excluding perforated zinc that he had made with a die or punch of his own construction. Of course, he could not perforate the metal so rapidly as it can be done with the big machines run by power in the factories, but, in the leisure of winter, it is much more profitable for him to perforate his own zinc than to buy it—unless he has some other work at which he can earn good wages. This reminds me that bee-keepers ought to plan to do all work possible during the winter months. Make hives (if they make their own hives) put together sections, put in foundation, etc., and have everything in readiness when the busy season opens. I was talking recently with a young bee-keeper who manages about 60 colonies, and he asked me if I thought I could manage three or four out-apiaries of 50 colonies each. I told him I felt sure that I could. He doubted *his* ability to do so. He is of the slow, methodical, careful, exact kind, and had had foul brood to contend with this year, and, with the shaking of about 40 colonies, and then trying to render the wax, and boil the honey, I did not wonder that he felt 60 colonies were all he could manage. I told him, that, to manage several apiaries, there must be short cuts and a perfect system, but I felt that he could be capable of accomplishing this feat if he had everything in readiness, and nothing to do except to look after bees during swarming time. I told him how Mr. Gill and his wife with one helper managed 1,100 colonies, but everything was in perfect readiness at the opening of the season.

Program for the National Convention.

The National Bee-Keepers' Association will hold its annual convention at the Revere House, corner of Clark and Michigan Sts., in Chicago, during the fat stock show, when exceeding low rates may be secured on the railroads. The dates for the meeting are Dec. 5th, 6th and 7th. Rates at the hotel are 75 cts for a room alone, or 50 cts each, where two occupy the same room. Meals are extra, or they may be secured at nearby restaurants. The program is as follows:—

FIRST DAY.

Evening Session—7:30 p. m.

Wax-Rendering Methods and Their Faults.....
O. L. Hershiser, Buffalo, N. Y.
Can the Tariff on Comb Honey be Tinkered to the Advantage of the U. S. Bee-Keeper?.....
Hildreth & Segelken, New York

SECOND DAY.

Morning Session—9:30 a. m.

How Many Bees Shall a Man Keep?....
E. D. Townsend, Remus, Mich.
Short Cuts in Bee-Keeping.....
M. A. Gill, Longmont, Colo.
Producing Both Comb and Extracted Honey on the Same Colony .....
Jas. A. Green, Grand Junction, Colo.
Question Box.....

Afternoon Session—2:00 p. m.

The Control of Increase.....
L. Stachelhausen, Converse, Texas.
Migratory Bee-Keeping.....
R. F. Holtermann, Brantford, Canada.
Question Box.....

Evening Session—7:30 p. m.

Contagious Diseases Among Bees and How to Distinguish Them.....
Dr. Wm. R. Howard, Ft Worth, Texas
Experimental Apiculture.....
Dr. E. F. Philips, Washington, D. C.

THIRD DAY.

Morning Session—9:30 a. m.

The Honey Producers' League—Can it Help Bee-Keepers?.....
R. L. Taylor, Lapeer, Mich.
The Business End of Bee-Keeping.....
N. E. France, Platteville, Wis.
Making Honey Vinegar.....
H. M. Arnd, Chicago, Ill.
Question Box.....

Afternoon Session—2:00 p. m.

In What Way Can Bee-Keepers Secure Their Supplies at Lower Prices?.....
W. H. Putnam, River Falls, Wis.
How the Producer and Dealer May Advance Their Mutual Interests.....
Fred. W. Muth, Cincinnati, Ohio.
Question Box.....

Evening Session—7:30 p. m.

What Have we to Hope for from the Non-Swarming Hive? .....
L. A. Aspinwall, Jackson, Mich.
Poultry Keeping for the Bee-Keeper...
E. T. Abbott, St. Joseph, Mo.

W. Z. HUTCHINSON, Secretary.

Nominations for National Officers.

General Manager France has sent out the following as the result of the postal card vote for candidates for election in November.

Greatest number votes, first named for each office.

President—C. P. Dadant, O. L. Hershiser, J. U. Harris.

Vice President—Geo. E. Hilton, C. P. Dadant, J. A Green, O. L. Hershiser, F. Muth, W. Z. Hutchinson, Dr. C. C. Miller, J. U. Harris.

Secretary—W. Z. Hutchinson, J. A. Green, L. Scholl, E. T. Abbott.

General Manager—N. E. France, W. Rohrig, W. H. Laws, F. Rauchfuss.

Directors—F. Wilcox, M. H. Mendelson, M. M. Baldridge, Dr. C. C. Miller, C. A. Hatch, W. S. Pouder. E. W. Alexander, J. M. Hambaugh, E. R. Root, J. F. McIntyre, G. W. York, G. B. Howe.

I might add that three of the above mentioned candidates have declined with thanks. Dr. C. C. Miller, M. M. Baldridge and J. M. Hambaugh.

And now I hope that Bro. France will bear with me if I make a few criticisms. Two years ago the Directors voted that the General Manager

should call for a postal card vote, and "the two men receiving the greatest number of votes for each respective office are to be candidates for said office; the names of the nominees and the offices for which they are nominated to be published in the bee journals." What I object to is the publishing of the names of more than two of the candidates, and of indicating which man has received the greatest number of votes. Almost the sole object of this informal ballot is that we may, if we so desire, occasionally elect a new man to office. We wish to place before the members two candidates with equal chances for election, or as nearly equal as it is possible for us to make them. The man already in office has an advantage, but by dividing up the opposition vote among half a dozen others he is almost sure of election. Another thing: Don't tell who has the greatest number of votes. Say that John Doe and Richard Doe have received the greatest number of votes. If you say that John Doe had the greatest number, and Richard Doe the next greatest number, that practically elects John Doe, and that is the very thing that we wish to avoid. As I have already said, we wish to bring two candidates before the voters with as nearly equal chance of election as it is possible. If we give the names of half a dozen candidates, and tell which one received the greatest number of votes, we have practically destroyed the value of the informal ballot, and might just as well hold our elections without any nominations. As it is, the very object that the Directors had in view is defeated by the manner in which the results of the ballot are published.

The Use of a Nom de Plume.

As a rule I do not approve of the use of a *nom de plume*. There are cases when modesty might be an excuse; where a man, or more likely a woman, might be willing to write but did not care for the resulting publicity. But when a man enters into a critical argument, and proceeds to "roast" some apponent, he ought to come out fair and square with his own signature. To strike a man in the dark, and then dodge behind a *nom de plume*, marks a man as a *coward*.

Have More Charity.

I wish our great family of bee-keepers to have more charity than they do for one another. Perhaps the majority *do* think well of their fellows, but there are a few who are too much given to fault-finding, to seeing a man's faults and failings instead of his good qualities. I don't say that men or their actions ought never to be criticised or condemned, but so many times are men fairly *abused* for something for which they are not to blame. I sometimes get letters accusing me very sharply of something for which I am not in the least to blame. If you think that a man has made a mistake, or has done wrong, it is not always best to ignore it, or keep still about it, but before condemning a man, ask in a kind and courteous way for an explanation. Don't be so ready to impugn a man's motives until you know all of the circumstances.

A Standard for Honey.

In 1904 the Secretary of Agriculture proclaimed the following standard for honey:

Honey is nectar and saccharine exudations of the plant, gathered, modified, and stored in the comb by the honey bee. It is laevo-rotatory, contains not more than 25 per cent. of water, not more than 25 hundredths (0.25) per cent. of ash, and not more than 8 per cent of sucrose.

So much complaint has been made that this standard excluded honey dew, and that it was often impossible to secure honey entirely free from honey dew, that the following minute has been added:

The standard does not in any way exclude small quantities of honey dew from honey. We realize that bees often gather small quantities of honey dew that cannot be detected in the finished product by chemical means, and does not damage its quality. It is only when relatively large amounts are gathered that the quality of the honey is impaired, and it fails to meet the requirements of the standard. It is generally agreed that such a large amount of honey dew is injurious to the quality of the product, which cannot then be properly regarded as honey.

Ontario Bee-Keepers' Convention.

The Ontario Bee-Keepers' Association will hold its annual convention in Toronto, November 15th, 16th and 17th. The place of meeting will probably be near Massey Hall, where will be held the Fruit, Flower and Honey Show. The Honey Show will be a really important part of the meeting, as nearly $200 have been offered in premiums on honey, bees, wax, implements, etc. Those interested should send for a list to the Secretary, Wm. Couse, Streetsville, Ont. The following is the program for the convention:—

WEDNESDAY, NOVEMBER 15TH.

2:00 p. m.—Minutes and discussion.
2:30—President's address. Vice-President to open discussion.
3:30—Address by Hon. Nelson Monteith, Minister of Agriculture.
4:00—Paper read by Mr. R. H. Smith, St. Thomas, on "Systematic Advertising and Marketing of Honey," G. A. Deadman to open discussion.
5:00—Question Drawer, Mr. W. J. Brown, Chard, in charge.
7:30—Address by Prof. F. Shutt, Ottawa, on the "Food Value and Various Uses of Honey."
8:30—Paper by Mr. R. Lowey, Cherry Valley, on "The Production and Care of Comb Honey," Mr. Morley Pettit to open the discussion.
9:30—Question drawer.

THURSDAY, NOVEMBER 16TH.

9:00 a. m.—Paper by Mr. F. J. Miller, London, "Are Amendments Necessary to the Foul Brood Act?" Mr. A. E. Hoshal to open the discussion.
10:00—Paper by Mr. John Fixter, C. E. F., Ottawa, "On Results of Experiments" Discussion opened by M. W. A. Chrysler, Chatham.
11:00—Official reports.
2:00 p. m.—Paper by Mr. Morley Pettit, Belmont, on "What Can be Done to Make the Association More Useful to Bee-Keepers," Mr. J. L. Byer to open the discussion.
3:00—Election of officers.
4:00—Question drawer, Mr. J. Alpaugh, Galt, in charge.
7:00—Address by Prof. F. C. Harrison, O. A. C., Guelph.
8:00—Addresses by American visitors.
9:00—Address by Mr. Arthur Laing, Ash, on "Bee-Keeping in Canada vs. Bee-Keeping in Jamaica."
9:30—Question drawer, Mr. John Newton, Thamesford, in charge.

FRIDAY, NOVEMBER 17TH.

9:00 a. m.—Unfinished business.
10:00—Paper by Mr. Dennis Nolan, Rewton Robinson, on out-apiaries, discussion to be opened by Mr. C. W. Post, Trenton.
11:00—"Points in Judging Honey, and Where Exhibitors Failed at the Honey Show," by the judges.

Selling the Honey.

The short honey crop of the present year has not been wholly an unmixed evil. It has been more or less of a blessing in disguise. Had there been a bounteous crop all over the country, to add to the old crop that was left, the bottom would have dropped out of the honey market. The Honey Producers' League did not accomplish what had been hoped for, but Nature stepped in and reduced the supply to such an extent that prices will certainly be sustained. There has been much talk, and some hope, of successful National co-operation in the selling of honey, but thus far the obstacles have proved insurmountable. Upon a small scale, locally, co-operation has been a success. Aside from all this, much can be done by each bee-keeper selling his own honey, either at retail, or to men who retail honey. Nothing crowds down the price of honey like piling it up in the great, commercial centers. Many

a consignment goes into Chicago, only to be shipped out again into the country. Every crop of honey sold in a local market keeps just that much out of the great trade-centers. Of course, every crop of honey can't be sold in the home-market. Mr. Gill, with his two car loads, must seek distant markets; but even when the home-markets will not take all of the honey, there is often no necessity for shipping honey to commission men and jobbers. Mr. E. D. Townsend told me, at the Grand Rapids fair, that he had sold nearly all of his crop of extracted honey (over 20,000 pounds) at an average of 7½ cts a pound, while producers that sent their honey to jobbers got very little over six cents a pound, and had to pay freight. Nearly all of his honey goes to actual consumers, or else to retailers. He has been several years building up this trade, and now he is reaping the harvest.

The men who are members of the Michigan State Bee-Keepers' Association will certainly have no trouble this year in disposing of their crops of honey. This Assoctation has printed 5,000 copies of a little pamphlet which gives, among other things, the names and addresses of its members, together with the amounts and kinds of honey that they have for sale. Each member is furnished as many copies as he can use to advantage, and leading grocers of the State are furnished with copies. I have received several inquiries lately as to where honey can be purchased, and my reply is simply to mail the inquirer a copy of this pamphlet. Any one reading this who wishes to buy honey should write E. M. Hunt, Bell Branch, Michigan, and ask him for a copy of this pamphlet.

The Central Lake, Michigan-Doty-Case.

This is a suit that, from first to last, has cost the National quite a lot of money, yet there has been no attempt on the part of the plaintiff to prove that the bees were a nuisance. The principal objection was that the defendent built a high board fence along the side of his apiary that was next to the street, and this fence obstructed the view of the plaintiff. Instead of attempting to prove that the bees were a nuisance, and thus secure their removal, the common council was induced to pass an ordinance prohibiting the keeping of bees inside the corporation. Mr. Doty was arrested on the charge of violating this ordinance, but the justice decided that the ordinance was unconstitutional, and discharged the prisoner. Later he was arrested again, and taken before another justice, who upheld the ordinance and fined Mr. Doty. The case was then appealed to the circuit court, and the judge has decided that the village has no authority to prohibit the keeping of bees. Of course, the village may yet carry it to the supreme court, but this is doubtful. It would seem that common councils would have learned by this time that any legitimate business can not be successfully prohibited. There is no question that some kinds of business (and bee-keeping is one of them) may be so conducted as to be a nuisance in a village, and there is a remedy in proving that the business is a nuisance, and securing an order for its abatement, but, for some reason, probably ignorance, this course is seldom followed; instead there is an ordinance passed prohibiting, in a wholesale way, the keeping of bees inside the corporation. This is, in many cases, a rank injustice. I have 104 colonies of bees inside the corporate limits of Flint. They are in the outskirts of the city, back away from the street. They are peaceable Italians and molest no one. Suppose a man should set an apiary of hybrids down right close to the main street, in the heart of the city, and stir them up at all hours of the day, in season and out of season. Hundreds of people would be stung. The apiary

would be a real nuisance. As a result, let the common council pass and enforce an ordinance prohibiting the keeping of bees inside the city limits, and don't you see the injustice that it would be to me? Each individual case should be decided upon its merits. If an apiary *is* a nuisance, let it be so decided, and the bees moved away. Don't attempt to drive out all of the bees inside of a corporation, simply because one apiary is a nuisance. It would be as reasonable to kill all the dogs because one dog is cross or ugly.

Can't You Enlarge Your Business.

I just wonder if there aren't hundreds of bee-keepers who might profitably increase their business. Fairly and soberly consider this question: "Why don't you keep more bees?" Do you think that your location won't support more bees? Have you ever kept so many bees as to reduce the yield unprofitably? If you have, and have too many bees now in one place, why don't you start an out-apiary? If you have only a few bees, why don't you keep more? Don't say you would keep more if you *had* them. It is an easy matter to get bees. There is no stock that will increase so rapidly as they. I started with 20 colonies last spring, and now have 104. Yes, you say, but the hives cost something. True; but if your heart is in it, you will find some way to get the hives. Not long ago I visited a father and son who are jewelers in a large city, but whose back yard is full of bees, and these men make their hives by hand, evenings, in a snug little shop on the back end of the lot. Not only this, but they get the most of their lumber from boxes that are picked up at stores for little more than a song. It was a pleasure to see with what enthusiasm they told of the happy times they had working there until ten o'clock at night making hives. They now have about 80 colonies, and next year they expect to increase them to such an extent as to occupy the adjoining lot. You see, it is easy enough to get bees and hives if you really care to do so. If you don't, *why* don't you? Consider the question well.

The Ventilation of Bee Cellars.

Years ago, "sub-earth" ventilation of bee cellars was almost universally recommended. Nearly every one who built a bee cellar, also buried 200 or 300 feet of drain title; the outer end connecting with the open air, the inner end entering the cellar. To remove the air *from* the cellar, a pipe, connecting with a scove pipe in the room above, extended down through the floor to within a few inches of the cellar bottom. The draft of the stove pipe "pulled up" the air from the cellar, and more flowed in through the sub-earth pipe to takes its place. In passing through the sub-earth pipe, the air was warmed. If there was no stove pipe with which to connect the the outlet pipe, it was extended upwards until it reached the open air. The air in the cellar, being warmer than the outside air, flowed out of the upper ventilator, and more air flowed in through the sub-earth tube.

In order to keep the temperature even, there was much opening and closing of ventilating tubes. In very severe weather, it was often necessary to leave the openings closed several days, or even weeks. At such times it was noticed that the bees suffered no inconvenience. Not only this, but it was often noticed that when the ventilators were opened, the in-rush of fresh, cool air aroused the bees and made them uneasy. Finally the ventilators were opened less and less, and, at last, they were left closed all of the time.

The amount of air needed by bees varies greatly according to circumstances. When they are excited and full of honey, as is the case with a swarm, the amount of air needed is

very great. If they can be kept quiet, a very little air will suffice. In winter, bees are in a semi-dormant state, one closely bordering on hibernation, as that word is properly understood, and the amount of air necessary for their maintenance is very slight. I believe it was Mr. D. L. Adair who, years ago, removed a box of surplus honey from a hive, and, leaving the bees in possession, pasted several layers of paper over the entrance. As all of the cracks and crevices were stopped with propolis, the box was practically air-tight. The bees were kept confined several days, yet did not, apparently, suffer for want of air. Mr. James Heddon tells of some man who, wishing to "take up" some of his colonies in the fall, plastered up the entrances with blue clay, expecting to kill the bees by suffocation. Upon opening the hives a few days later, imagine the discomfiture of their owner at seeing the bees fly right merrily. I have several times wintered bees successfully in "clamps" where the bees were buried under two feet of frozen earth. Prof. A. J. Cook even went so far as to hermetically seal up two colonies by throwing water over the hives and allowing it to freeze, thus forming a coating of ice over the hives. The bees survived this treatment. It is not likely that, in any of these experiments, the coverings surrounding the bees were absolutely air-tight, but enough is proven to show that, in winter, bees can survive, and, apparently thrive, with a very limited amount of air.

Special ventilation, simply for the sake of securing fresher or purer air, seems to be almost wholly unnecessary; the few bee-keepers who plead for special ventilation do so almost wholly upon the ground that they can thereby more readily control the temperature. If the repository is sufficiently under the ground, it does not seem as though ventilation would be very much needed for controlling the temperature, unless it might be towards spring when the bees had commenced breeding, and a large number of colonies were in the cellar.

When bees settle down into that quiescent state that accompanies successful wintering, their need of air is very slight, indeed. When their winter nap is ended, and spring arouses them to activity; and to brood rearing, more air is needed. It is then, if ever, that special ventilation is a benefit, but, as this can be secured, in the ordinary cellar, by the opening of doors and windows at night, if it ever becomes really necessary, it scarcely seems necessary to go to the expense of supplying sub-earth pipes. I would not do it, nor advise it. Where bees are to be wintered in large numbers, in a special repository, I would have some arrangement whereby the heat could be allowed to pass off, if it should become advisable, yet not allow the entrance of light.

EXTRACTED DEPARTMENT.

IN-DOOR WINTERING.

Some Points on the Construction and Management of a Cellar.

In reply to a query, Mr. R. H. Smith, of St. Thomas, Ontario, gives the readers of the Canadian Bee Journal the following good advice:—

For the province of Quebec I would not recommend any kind of building above ground as a repository for wintering bees; but, if such a building were used, cedar, being a better non-conductor than stone would be the better material with which to build it.

The walls of such a building should not be solid, but built with two, tight, air spaces. The most satisfactory place I have found to winter bees in is a good cellar built of stone or concrete entirely below the ground level, under a dwelling or other building, where the temperature can be maintained at from 44 to 50 deg. F. The drier the cellar, the lower the temperature may be, within the above limits. I have not found that dampness will be injurious to bees in a temperature of 48 to 52 degrees, while a long-continued spell with the temperature 40 degrees might cause a heavy loss of bees, I would not advise a plank floor for a bee cellar, as the bees would be likely to feel the jar from a person walking over it. I would prefer an earth floor if it were dry. A good cement floor would be the best. It would be solid, would not decay, and would prevent the dampness from rising; leaves or paper are not necessary. Hives should be placed on stands about 15 inches high; place the first hive on the stand with the back end raised an inch higher than the front, then raise the rear end of the hive off the bottom board and block it up with ⅜s or ½ inch blocks, remove the cover (leaving the quilt over the bees) and place the next hive on top of the first and treat it in the same way; they may be tiered up three or four high. We find it advisable to place each tier on a separate stand to avoid disturbing the other bees. If many colonies are placed in the cellar, a good system of ventilation should be provided, so as to keep the air pure in the cellar.

KNOW SOMETHING OF EVERYTHING.

And Everything of Some One Thing.

Mr. R. C. Aikin has given us a most excellent article this month. There is one point he mentions upon which I would like to say a few words. It is that of the folly of confining ourselves too closely to business, or to some one thing. While I am a thorough believer in specialty, I well-know that too close application to business, or to some one thing, narrows a man's mind, and prevents him from doing the most effective work even in his chosen specialty. Let me give an illustration or two.

In Printers' Ink is running a most charmingly written series of articles, entitled "Forty Years an Advertising Agent." In these Mr. Geo. P. Rowell gives reminiscences of his busy life, wherein he achieved remarkable success. At the age of 33, after having been in New York only six years, he had accumulated about $100,000. But this was not all; there was a troublesome cough, a flush on the cheek and an unnatural brightness in the eye. Sound, healthful sleep was an impossibility. The mind could be turned in no direction except that of business. Even in church, the mind would busy itself planning some circular, or evolving some scheme for inducing some advertiser to increase his advertising appropriation. Mr. Rowell was wise enough to go back to the scenes of his childhood, in New Hampshire, and carry out a long-cherished ambition, that of showing the farmers how to farm. Most of the time, for the next seven years, was spent in carrying out this laudable ambition, and, although Mr. Rowell admits that in no one month were the returns sufficient to pay the expenses for that month, yet he was able to return to New York with renewed ambition and vigorous health. That the lesson was well-remembered is shown by occasional future allusions to fishing-trips.

The Ladies' Home Journal is publishing a series of articles by F. Hopkinson Smith. The title is "Let Us go Back." In these Mr. Smith urges the return to the more sane and moderate life of the past, in place of the present hustle and the "strenuousness." He tells of a Chicago, multi-millionaire, business man, who, at the age of 60, was about to drop into his grave, prematurely worn out with the struggle. Two years before his death his physician said to him that he must stop work; heart, brain, body and nerves—all needed rest. "What, give up business!" the man exclaimed,

"Why, man, you are crazy! What would you have me do?" The physician mentioned hunting, fishing, farming, raising of flowers, collecting books or pictures, etc. The man cared for none of these. "What *did* he care for?" Just *business*. "That's what I have been doing all my life; that's what I am accustomed to; that's what I like." Continuing, Mr. Smith says:—

Poor devil. Poor, miserable, God-forsaken pauper! Flowers might bloom, brooks sing in the sunlight, cool winds steal through the silent forests; there were fishing and hunting, golf, horseback riding; pictures, books, curios—any number of personal pleasures—nothing of all that for him. He must continue to wear the same Chinese shoe that he had put on when a boy. Slowly but surely it had crushed every impulse outside of his daily task, and strangled every taste At twenty there was a bouyancy in his step; life was before him; he would make money fast, then he would enjoy it. At thirty he was still pegging away—no time for pleasure. At forty, the million came, and with it the craving for another, at fifty his name stood the highest in the street. At sixty came the end! Never once in all his life had he had any *fun*.

I know how to sympathize with these men. I have seen the time when anything outside of business seemed scarcely worth while. Ordinary amusements were almost a bore to me. If I went with my wife to see a play, I filled my pockets with letters to read and ponder over between the acts. It was my *aversion* to everything outside of business that first attracted my attention to my condition I at once set about applying a remedy. For one thing, I took up photography. I also cultivated what might be termed the small pleasures of life; and, after all, they make up the greatest sum of our happiness. Some of you might be surprised to know some of the small things in which I take pleasure. I delight to bring home delicacies for the table—a nice bunch of celery, a basket of grapes, a flower for the wife, a toy for the little three-year-old grand children, a magazine from which I can read aloud an article when the evening lamps are lighted. I have taken much pleasure the past summer in the cultivation of a few simple flowers, such as Nasturtiums, Aster and Morning Glories. By the way, as I sit here writing, I can look out of the window upon a row of Japanese Morning Glories, across one end of the porch, that are all ablaze with great, three-inch blossoms in all of the colors of the rainbow. As I gaze upon those beautiful blossoms there seems to pour out from them a richness and sweetness of feeling that reaches to my very soul—it is a feeling that I can't describe, it must be felt to be understood. The days have passed when I can think of and enjoy nothing except business. In closing this little homily, I think I can do no better than to quote a short item from the Star Monthly. It reads as follows:—

Business is a great game. We strenuously strive for the vague goal of success, the joy of the game in our hearts. It is a great game, a grand game, it is the only thing worth while to the man with the shrewd brain, the iron nerve, and the courageous heart. The only trouble with the game is that it is too fascinating. The players are apt to lose all sense of proportion, the game fills their horizon to the exclusion of everything else in life. The game possesses its victim, he can't break away from it although the result of the continuous playing at high tension saps the vitality of the player. For a time he keeps up on excitement, which shows in his glittering eye and strident voice, until one day he finds he can no longer play the game. What is left for him? He is out of the only game he knows, and is too old to learn a new one.

Stop and think a moment. Is it worth while to play the game all your waking hours, and dream about it in your sleep, when the only result will be to add you to the rapidly increasing list of nervous business wrecks, victims of "Americanitis" or over-strenuousness?

The string of the violin kept at concert pitch will snap. What of the delicate nerves kept at constant tension?

Choose the sane course. Play the game of business with all your might when you do play, but take time to relax, to learn other games, and to cultivate a liking for the beauty in art and literature, and above all take time to be cheerful. If you do this you will become a broader man, a healthier man, and happier man, for into your soul many avenues of pleasure will open.

Wanted: Experienced Apiarist to take full charge of my apiary of 200 colonies. Write for particulars.

ARNT ARNESON,
10-05-1t Route 5 Rice Lake, Wis.

—If you are going to—

BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

LOW RATES TO COLORADO.

Via Chicago, Milwaukee & St. Paul Railway.

On a number of days this summer low round-trip rates to California points are offered via the Chicago, Milwaukee & St. Paul Railway. Liberal return limits and stop-over privileges. Two through trains every day from Union Station, via Chicago, Milwaukee & St. Paul and Union Pacific Line. The Overland Limited leaves 6:05 p. m., and makes the run to San Francisco in less than three days. The California Express, at 10:25 p. m., carries through tourist as well as standard sleeping cars, and the berth rate for tourist sleeper is only $7. Complete information regarding rates, routes and train service sent on request. Colorado-California Book sent for six cents postage. Folders free.

R. C. JONES,
Michigan Passenger Agent,
32 Campus Martius, Detroit Michigan

HONEY JARS.

The No. 25 Honey Jar, Porcelain Cover, Metal Screw Cap, absolutely tight, holding one pound of Honey, in shipping cases of one Gross each.

1 gross lots - -	$4.50 per gross
5 gross lots - -	$4.00 per gross

Also in strong

RE-SHIPPING CASES

of two dozen each, with heavy corrugated partitions, sides, and bottom—a perfect protection.

1 case lots : -	$1.00 per case
5 case lots - -	.95 per case
10 case lots - -	.90 per case

F. O. B. New York—Prompt shipment on receipt of order.

TUMBLERS

Eight-ounce Tumblers, tin caps, three dozen in re-shipping case.

5 case lots, per case of 3 doz., .85 cts,
10 case lots, per case of 3 doz., .80 cts.
20 case lots, per case of 3 doz., .75 cts.

HILDRETH & SEGELKEN

265-267 Greenwich St.
And 82-84 Murray St. NEW YORK, N. Y.

Prosperity, Happiness, Independence

Are all Yours in

Michigan and its Famous Fruit Belt Region

Now is Time

To come to Michigan and investigate its climate and soil; inspect the abundant crops of fruit, grain and vegetables; and select a home in a State where "failure" is unknown.

Special Low Round Trip Rates

are now being offered to Home Seekers desiring to visit the following points in the Lower Peninsula of Michigan:

Au Sable	Cadillac	Oscoda	Stratford
Beaverton	Gladwin	Manistee	Twining
Branch	Kaleva	Roscommon	Walhalla
Brethren	Lewiston	St. Helens	West Branch

Tickets on sale October 17 and 31, November 7 and 21, and December 5, 1905.
Limited to Fifteen Days for return
Apply to your local Ticket Agent for Rates and General Information

MICHIGAN COLONIZATION BUREAU,
Manistee, Michigan.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

Now is the Time to Order

Your Bee-Hives, Sections, Shipping-Cases, Berry Boxes and Crates for the coming season. By sending a list of goods wanted, we can save you money.

SHEBOYGAN FRUIT BOX CO.,
9-05-4t Sheboygan, Wis.

I Will Buy

a few tons of honey and pay cash at your depot. Correspondence solicited. Give full particulars as to quality, price wanted, etc. If satisfactory I will call on you. A. W. SMITH,
9-05-2t Birmingham, Mich.

For Sale or exchange, 450 colonies of bees, locations, and all fixtures complete for comb or extracted honey.
S. W. WEEKS, Delta, Colo.

WANTED comb honey. State price and quantity.
C. H. W. WEBER, Cincinnati, Ohio.

Wanted: Fancy white comb honey in non-drip shipping cases also white clover honey in cans and barrels. Please send samples and state your lowest price delivered here. We pay spot cash upon receipt of goods. **GRIGGS BROS., Toledo, Ohio**

HONEY WANTED—State kind and lowest price. Address,
CHAS. KOEPPEN,
Fredericksburg, Va.

It's Time to Feed

Feeding time is here and you will want feeders. There are none better than the Miller-Boardman entrance, division board feeder and the Simplicity bottom board feeder. They can be attached to bottom board and left all the year. They are made on honor and sold direct from factory to you, saving you a middle man's profit.

Your orders will receive prompt attention. Send them early.

Don't fail to send us your address for our new catalogue which will be very comprehensive and will give you many valuable pointers upon bee-keeping.

DOLL'S BEE SUPPLY MFG. CO.,
Power Bldg. Minneapolis, Minn.

If You Want to Buy



a property or a business of any kind anywhere in the United States write me a postal card for my Free Catalogue. I have bargains everywhere and can save you money. Don't wait. Write today.

A. P. Tone Wilson, REAL ESTATE SPECIALIST
TOPEKA, KANSAS.

Dovetail Hives and Sections.

Prices until March 15th.

Eight-frame, Dovetail, 1½ story, $1.30; 10-frame. $1.45; rabbeted, 8-frame, 95c, 10-frame, $1 15. No. 1 bee-way sections, $3.40. Plain sections, 25c per M less. Foundation, 10 per cent. off list prices. All kinds of Bee-Keepers' Supplies at reduced prices. Berry baskets, boxes and crates in stock.

Send for 24-page catalogue, free.

W. D. SOPER
R. D. 3 Jackson, Mich.

The Beginner

in bee-keeping can find just the information he needs in the Beginners' Department of the Rural Bee-Keeper.

The Amateur

can find instruction in our Question Department and $$$ in our Market Reports

The Foreign Born

bee-keeper will get news from home in our Beed in Abroad.

The Professional

can interchange Ideas with the best bee-keepers in the world through the colums of the Rural Bee-Keeper.

Subscribe Now $1.00 a Year
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All kinds Catalog free. Represented by

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For information address

W. H. Putnam, River Falls, Wis.

Root's Goods at Root's Prices



POUDER'S Honey Jars and everything used by Bee-Keepers.
Large and complete stock on hand at all times. Low freight rates.
Prompt Service. Catalog sent free.

Walter S. Pouder
513-515 Mass. Ave.
INDIANAPOLIS, IND.

Dittmer's Foundation Is the Best.

Now is the time to prepare for next season,

If you want to Save Money

on Foundation, working wax for cash, and on a full line of supplies.
Write for prices and discounts, and samples of our Superior Foundation.

E. Grainger & Co., Toronto, Sole Agents in Canada, for Dittmer's Foundation.

The Bee & Honey Co., Beeville, Tex.
Agents for Tex

Gus. Dittmer,
Augusta, - - Wisconsin

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$50 to $100 per month salary assured our graduates under bond. You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials. **Operators always in demand**. Ladies also admitted. Write for catalogue.

MORSE SCHOOL OF TELEGRAPHY.
Cincinnati, O., Buffalo, N. Y., Atlanta, Ga., La Crosse, Wis., Texarkana, Tex., San Francisco, Calif. 8-05-4t

I will sell my crop of

WHITE CLOVER

extracted honey at 6½ cts. a pound, F. O. B., in 60-lb. cans boxed singly.
LOUIS J. BERGDOLL,
929 N. 29th St., Phila., Penn.

American BEE Journal



All about Bees. 16-page Weekly. Sample Free. $1 a year; 3 months' Trial Trip, 20c. silver or stamps. Best writers. Oldest bee-paper; illustrated. Dept's for beginners and for women bee-keepers.

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL.

Good Queens

and bees cost no more than poor ones. We furnish good ones on short notice. Untested, 75c each; $4.00 for 6; or $7.50 per dozen. Tested, $1.25 each. Breeders, $3.00.

Nuclei, 1-frame, with queen, $1.50; 2-frame, $2.00; 3-frame, $2.50. Absolute satisfaction or no deal. We breed six pure races. Price list describing them free. We are agents for the Dittmer comb foundation for this State and sell at Dittmer's prices. If you wish your wax worked into foundation for cash we will receive same and furnish you the foundation from our stock; which will save you much time and freight,

THE BEE AND HONEY CO.,
2-05-tf Beeville, Tex.

GINSENG.

10,000 select roots for sale for planting, at $5.00 per 100; also ginseng seed at $1.50 per ounce, or $20.00 per pound. As I prepare it 98 per cent of this seed will germinate. No reduction on large orders. My 5-year old roots will average from one to two ounces when dry, and the August quotations for dry roots are $8.00 per pound. Complete directions for planting and care of beds will be sent with each order. The work will not conflict with apiarian work. Address,
EUCLID RIDGE APIARIES,
Wickliffe, Ohio.

A Renewal Offer.

The beginning of the year is always a busy time with publishers. Not one of them that would not give quite a little if all renewals would come in before the end of the year, then all changes could be made, and be out of the way, and the attention turned to something else. As an inducement to subscribers to renew before the end of the year, I have decided to make a generous clubbing offer with the Cosmopolitan magazine.

In my opinion, this magazine stands in the front rank. It is not simply given to light fiction, but contains many serious and really helpful articles. I have read it for years, and, of the magazines, I think it is my favorite. It has now been sold to the Hearst Organization, and will be boomed as it never has been before. It is expected that, within a year, it will outrank every other magazine in this country. "The best, no matter what it costs," is to be the motto of its editors; therefore, it is in the Cosmopolitan that you will find the writers of world-wide reputation. Its fiction will be masterpieces of pen-craft—its whole contents will set the standard for magazine perfection. The price of the Cosmopolitan is $1.00 a year, and the Review is $1.00, but if you will renew your subscription to the Review *before the end of the year*, I will send you the Cosmopolitan for only 60 cts. That is, if you will send your renewal to the Review before the end of the year, $1.60 will pay for the Review and the Cosmopolitan for one year.

W. Z. HUTCHINSON, Flint, Mich.

Homeseekers' Excursions

Southwest

Santa Fe

Ask General Passenger Office
Atchison Topeka & Santa Fe
Railway, Chicago

Down Go the Rates!

Oct. 3 and 17, Nov. 7 and 21, Dec. 5 and 19, via the Santa Fe. To many points the rate is much less than one fare for the round trip. Through Tourist Sleeper Chicago to Galveston.

Visit the prosperous Southwest, where a Man-Not-Afraid-of-Work can make money and enjoy life.

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-04-tf 147-149 Cedar Lake Road

ROOT'S BEE-SUPPLIES
—AT—
ROOT'S PRICES

6-04-tf Send for Catalog
COOLEY & DEUEL, Kendall, Mich

PAPER CUTTER FOR SALE.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z HUTCHINSON Flint, Mich

Honey Quotations

The fol owing rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

NEW YORK—New crop of comb honey is now arriving in a small way and fancy stock finds ready sale at 14 to 15c per lb., No. 1, at 12c to 13c, and amber at 11c. No buckwheat on the market as yet. Extracted is in good demand, and we quote California at 6 to 7⅓ per lb., according to quality. Southern at from 55 to 65c per gallon. White clover at 6½c to 7c per lb. Beeswax, at 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Sept. 7, 1905. New York.

TOLEDO—The maket on comb honey at this writing has somewhat improved. The prices are firm, with a fair demand. Fancy comb honey in a retail way brings 14 to 15c; No. 1, 13 to 14c, amber 12c. Extracted white clover, in barrels, 6c to 6¼c, amber 5c to 5¼. Beeswax 26c and 28c.

We look for a good demand for honey until the first of December, and shall be glad to hear from any one that has anything to offer in this line.

GRIGGS BROTHERS.
Oct. 10, '05 Toledo, Ohio,

CINCINNATI—Reports from different parts of the country give evidence of an almost total failure in the comb honey crop excepting some points in the North. We are SELLING this Northern comb honey, at from 14 to 16c per lb. by the case.

The demand extracted honey is about equal to the receipts, which are good. We continue to sell amber in barrels at 5¼ to 6c. White clover at 6½ to 7½c. For beeswax, we are paying 30c per lb. cash, delivered here.

(We wish to call the attention of the producer to the above quotations on honey. He must not expect to receive these prices on his product. The above are our SELLING prices.)

THE FRED W. MUTH CO.
Oct. 6-05 51 Walnut St., Cincinnati, Ohio.

BUFFALO—The demand is better for honey of all grades, and quite liberal lots can be sold now. We quote as follows: Fancy white, 14 to 15c; No. 1 white, 12 to 13c; fancy amber, 10 to 11c; No. 1 amber 10c; fancy dark 8 and 9. Beeswax 28 to 32c.

BATTERSON & CO.,
Oct. 1, 1905. Buffalo, N. Y.

KANSAS CITY—The honey market is firm, stock scarce, and demand good at the following prices: Fancy white, 12½c to 13c; No. 1 white 12½c; No. 1 amber 11c; fancy dark 10c; white, extracted 7c; amber, 6½c; beeswax 25 to 28c.

WALKER-BREWSTER GROCER CO.,
Oct. 10, 1905 423 Walnut St., Kansas City, Mo.

KANSAS CITY—Market is strong and demand good for comb honey. White extracted is selling fairly well. We look for the market to remain firm. We quote as follows: Fancy white, per case $3.35; No 1 white, per case: $3 25 white extracted, 6½c to 7c; amber 6 to 6½c. Beeswax, 28c.

C. C. CLEMONS & CO.,
Oct. 8, 1905 Kansas City, Mo.

CHICAGO—We are having an excellent call for new comb honey. First car of California white comb in No 1 sections, arrived yesterday, containing 1760 crates. Sold about half the car today at 13½c to 14c. We quote as follows: Fancy white, 14c; No. 1 white, 13c to 13½c; fancy amber 11½c to 12½c; No. 1 amber, 11c to 12c; white, extracted, 6½ to 7c; amber, 5¾ to 6c.

S. T. FISH & CO.,
189 South Water St.
Sept. 14, 1905. Chicago, Ill

CHICAGO—The demand for comb honey is about as usual for the season of year. Offerings from the surrounding States are fully equal to past season, but that from Colorado and the Middle Western States is not. No. 1 to fancy white comb honey sells at 13 to 14c, with occasional sale at 15c; the off grades, embracing crooked combs, etc., sell at 11c to 12c; amber grades are difficult to place at 9c to 10c. Extracted white, 6 to 7c; according to kind, body, flavor and package; ambers 5½c to 6½c. Beeswax is selling upon arrival at 30c, if clean; off grades about 2c per lb. less.

R. A. BURNETT & CO.,
Oct. 5. 1905 199 So. Water St.

All You Have To Do

Is to send your name on a postal and get our way down prices on the best dovetailed bee-hive made. The prices on our goods are lower than the lowest. The workmanship is excellent. We make all up-to-date goods. Our Oct. and Nov. discount, discounts every thing you have seen. Send to-day. We make our own foundation, therefore you get it direct from the factory. Address

The Wood Bee-Hive & Box Co.
Lansing, Mich.

10 WEEKS CENTS

We wish every reader of the Bee-Keepers' Review to become acquainted with *Gleanings in Bee Culture*. We extend a cordial invitation in our offer to send you the paper ten weeks for ten cents.

There is no bee paper in the world like Gleanings. Its aim is to meet the needs of every bee-keeper everywhere and it needs it Whether you own one colony or a thousand or are merely interested you cannot afford to miss a single number. Gleanings is progressive. Every number is an improvement over the last.

CONTRIBUTORS. It is useless to state that ***Gleanings*** excels in this point. A regular department is edited by Dr. C. C. Miller, G. M. Doolittle, Prof. A. J. Cook, J. A. Green and Louis Scholl. These names speak for themselves for they are the best writers of the day. Every issue contains articles from the pens of the best bee-keepers all over the land. A list of them would be the catalog of the most successful bee-keepers the world over. We will soon begin a series of remarkable articles by E W. Alexander. We are safe in saying a higher price was never paid for an article of this class as we paid for a single one of this series. Every one of them will be worth hundreds of dollars to bee-keepers

HALF-TONE ILLUSTRATIONS. During the past summer we have had a special artist to take photographs for us. He has traveled on our account alone the past summer over 400 miles and we can promise some very fine pictures. Many of the Second Prize Photo Contest, American and Foreign will appear soon. Our engravings are made by the very finest engravers in the United States. Just this wealth of illustration doubles the value of the paper.

DECEMBER 15TH ISSUE: We are pleased to announce that extensive plans are now under way for a Special Christmas Issue of Gleanings, It is planned that this issue shall far exceed in its wealth of contributed articles, its half-tones and its cover design anything that heretofore has been attempted in bee-keeping literature. The cover is to be designed and printed by one of the best cover establishments in the United States The design is something unique and beautiful indeed. This issue will contain nearly 100 pages and 40,000 copies will be printed, making a bee-keepers magazine that compares favorably with any magazine of the present day.

SUBSCRIBE. When you have read this notice, take up your pen and tell us to send you ***Gleanings ten weeks*** and enclose ***ten cents,*** in coin or stamps. Don't put it off. The magnificent Christmas Number alone will be worth 25c to any bee-keeper—we don't promise this number to any but subscribers—Don't put this matter off for you will never be able to spend 10c to better advantage.

THE A. I. ROOT CO., MEDINA, OHIO

NOVEMBER, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice, Feb. 2, 1888. Serial number, 214

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received for its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heeded. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Nov. 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

Clubbing List.

I will send the REVIEW with—

Gleanings, (new)	($1 00)	$1 75
American Bee Journal, (new)	(1 00)	1.75
Canadian Bee Journal	(1.00)	1.75
Progressive Bee Keeper	(.50)	1.35
American Bee Keeper	(.50)	1.40
Rural Bee-Keeper	(1 00)	1.75
Western Bee Journal	(1.00)	1.75
Ohio Farmer	(1.00)	1.75
Farm Journal (Phila)	(.50)	1.20
Rural New Yorker	(1 00)	1.85
The Century	(4.00)	4.50
Michigan Farmer	(1.00)	1.65
Prairie Farmer	(1.00)	1.75
American Agriculturist	(1 00)	1 75
Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
Harper's Weekly	(4.00)	4.20
Youths' Companion....(new)	(1 75)	2.35
Cosmopolitan	(1.00)	1.90
Success	(1 00)	1.75

National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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Names of Bee-Keepers

TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest States), and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	60
Ark....	82	Kans..	350	New Mex.	54
Ala.. .	80	La.....	38	Oregon..	109
Calif...	378	Mo.....	500	Ohio...	1300
Colo...	228	Minn..	334	Penn....	912
Canada	1200	Mich...	1770	R. I.....	46
Conn..	162	Mass...	275	S. C.....	40
Dak...	25	Md.....	94	Tenn....	176
Del....	18	Maine	270	Tex.....	270
Fla....	100	Miss...	70	Utah.....	68
Ga.....	90	N. Y...	1700	Vt.....	205
Ind....	744	Neb.....	345	Va.....	182
Ills....	1375	N. J.	130	W. Va....	178
Iowa..	800	N. H. ..	158	Wash....	122
				Wis.....	620

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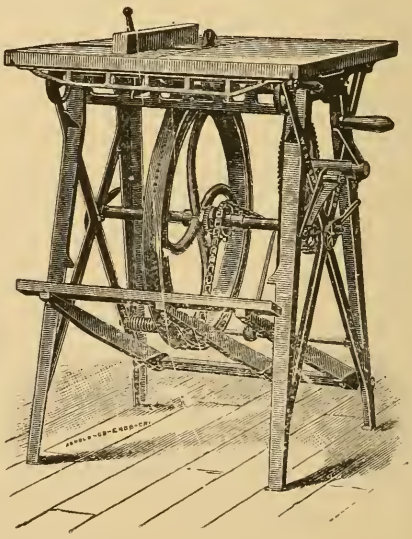
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W. Z. HUTCHINSON, Editor and Proprietor

VOL. XVIII. FLINT, MICHIGAN, NOV. 15, 1905. NO. 11.

The Philosophy of Protecting Bees With Tarred Paper.

A. C. MILLER.

DEAR Bro. Editor:—Your letter requesting an article on tarred paper as a winter protection for bee hives calls for my careful consideration. As you may know, I have been preaching the tarred paper method to readers of the American Bee-Keeper for a long time. You may also know we boast that the good things in bee-keeping appear there first, but we are also quite willing to help you serve your readers with them.

Before discussing when and how to put on the paper it will be well to consider the conditions within a bee-hive during the cooler months. At such times the bees are gathered into a fairly compact cluster, many of them in cells, and the food supply entering only the outer layer of this sphere. Within this cluster the temperature is not far from 76 degrees F., varying up and down with the activity of the bees, the activity being governed by the temperature of the air surrounding the bees, by the comfort or discomfort of the bees, and by the amount of food held in their honey sacs.

The air within the hive and surrounding the cluster is very little higher than that outside the hive. This should be borne in mind. Now when the bees feel the need of more food they begin to raise the temperature, move about and feed. Perhaps we should say they begin to move about and feed and thus raise the temperature. As soon as their needs are satisfied they relapse into their former quiet state. With the feeding activity there is more or less fanning or ventilating. This releases some of the warm and moisture-charged air of the cluster, and slightly raises the temperature of the surrounding air.

If the cluster thus described is enclosed in a hive through the walls of which the heat of the sun easily passes, then when the sun shines, the air contained in the hive is warmed and the bees aroused. This warming up of the hive is beneficial, in that it drives out the moisture condensed from the breath of the bees and enables the bees to move and feed at a minimum of wear and tear to themselves. But if the heat-

admitting walls also permit its rapid radiation on the passing of the sun, the benefit from the heat is more than offset, because the bees are liable to be chilled before they can again form a cluster.

If the walls of the hive do not permit the ready heating of the interior by the sun, we have conditions as bad in another way as those in the previous case. To move about, the bees have to produce heat themselves, and, do their best, they heat the interior of their hive only a very few degrees above the outside atmosphere. The cluster in such a hive is comparable to a man in the room of an unheated house in winter. We all know how the chill of such a room penetrates us, and how *slightly* the presence of a person can raise the temperature. There is this difference, however, the bees have fresh air while that in the closed room is not. A chaff packed hive is virtually an ice house to the bees, they cannot warm it nor can the sun help them in the few hours it is up in the winter. Its advantages in winter are in preventing *sudden* changes within the hive chamber and lessening the condensation of the walls of the hive. But it also prevents the sun from aiding in the drying out of the hive.

The warm and moisture laden air which slowly escapes from the cluster of the bees rises, spreads out, cools, settles and flows from the entrance, if the latter is large enough for good circulation. In the unprotected hive this warm and moist air deposits much of its moisture on the cold walls of the hive, and on the combs and frames, but the first sunshiny and mild day dispels most of it. In a single-walled hive wrapped in material which is wind and water-proof, black in color, and a poor conductor of heat, we have a domicile for the bees which will absorb heat in goodly volume, with considerable rapidity, and give it up slowly. It embodies the good points of both the single-walled and the chaff hive, and avoids their bad ones.

Tarred building paper possesses the desired properties for a hive wrapping to a higher degree than anything else I know of, but it is rather dirty to handle and is of small value for a second season's use. A sheet of this laid on the top of a hive and folded down about the sides as one would wrap a bundle, the lower edges of the paper coming below the edge of the bottom board, except at the entrance, and these lower edges fastened down with strips of wood, will make a hive impervious to wind or moisture. Because of its black color it readily absorbs the heat of the sun's rays, thus warming the hive and its contents. Because of its poor conductivity (by contact), and because it does not lie closely against the hive, it prevents the rapid radiation of heat. Hence, a hive so protected, when the sun shines on it, heats rapidly, and when the sun is gone cools slowly, paradoxical as that may seem.

The substance of the foregoing paragraph should be carefully noted, other wise the conclusion may be jumped at that the virtue of the system lies either in the color, or the fact that some sort of paper is used.

There is a hive made by the W. T. Falconer Mfg. Co. that approaches the conditions of a hive wrapped as above more nearly than any other I know of, and if it were painted black would be almost identical, but possessing the advantage of permanency and durability though the initial cost is more. If the dark hive were in a shady location in the summer no objection could be had against the color. The hive I refer to is known as the Air Spaced hive. It has, two ½ inch walls separated by an inch space, and the space face of each wall is covered with a sheet of heavy building paper.

One factor I have left until the last because of its importance. The en-

trance to the hives should be left *wide open*, that is, 14 inches wide by ½ high, then when bees are roused by the warmth they are less likely to leave the hive when the outer air is dangerously cold. They come down close to the entrance and stop. Such as do fly, are, as a rule, bees which would otherwise die in the hive.

BETTER METHODS OF RENDERING AND SELLING BEESWAX ARE NEEDED.

Beeswax is quoted in the apicultural press at from 25c to 30c per pound, and yet there is a market in cities and most large towns for pure wax at 50c a pound and upwards. Many diversified industries use it; such as manufacturing jewelers, leather workers, tailors, etc. It seems a grevious loss for the producers to sell their wax for 30c, and pay the freight on it at that, when a little effort will make a market yielding from 60 to 100 per cent. more. For twenty and more years I have sold all the wax I could produce, at 50c a pound, and never had to seek a customer, they seeking me. Many industries using wax cannot use a substitute, nor an adulterated article, and they are often seriously hampered by the difficulty of securing pure wax.

In your journeyings you have noticed the carelessness of many bee-keepers in leaving pieces of comb about the apiary, of piles of comb more or less moulded or moth infested and going to waste. Three things are accountable for this condition; negligence, labor of rendering, and small returns for the labor. I believe it is quite possible to materially increase the wax output of any apiary through greater care in saving the pieces of comb, through deeper cutting when uncapping, through more frequent renewal of combs or parts of combs, and, lastly, through less wasteful methods of rendering it. The extraction of wax as at present conducted is both laborious and wasteful. If wax production is to be profitable, the item of time to pounds produced, with a given amount of labor must be carefully considered. With wax presses, which, so far, have yielded the largest amount of wax from the material treated of any process, we have a slow, a hot, a laborious, and a sloppy system, in other words an expensive method. Besides this, a press will not yield *all* of the wax. It is impossible. The principle is wrong. All the wax *can* be secured, and that with little labor or time. [Tell us how. ED.]

The returns from wax in an apiary of only half a dozen colonies can easily be made $5.00, or more, as I have demonstrated. In a larger apiary the the returns are proportionately larger.

PROVIDENCE, R. I., Oct. 4, 1905.

The Many Sided Problem of Out-Apiaries.

F. COVERDALE.

MR. EDITOR, the topic of out-apiaries is deep, broad, and long to the extreme. Their management is difficult to successfully carry out; and I fear will always not achieve sufficient success to tide them over from year to year; especially so in poor and scanty locations. However, the field is full of hope, and, in many places, will, no doubt, prove faithful to the determined man. He will probably succeed as often as with any other rural pursuit.

THE CHARACTERISTICS OF A GOOD LOCATION.

A good location is first in the list, and, should be selected with extreme care. It is not enough to have abundant white clover, surrounding each yard, for white clover often fails to secrete nectar. Heartsease figures nearly one-half; and, if my locations had not had the latter, I should have been compelled to step down and out. A location with plenty of clover and heartsease, with basswood added, would be ideal; furnishing a constant flow from June 5th till frost; except, about 20 days, from the last of July, to about the middle of August. Sweet clover, if it could be added, would fill the gap. I can only speak of my own locality. Water near by is of much importance; and, in selecting a location, I would go if possible to a creek valley. Look the field over for two and one-half miles around, and, even after looking it over, you may not succeed in getting in. If you can buy a patch of ground by all means do it; if not, lease a sufficient piece of ground for a term of years, so that you won't be compelled to move off right away. Try and do business on substantial basis. I own the land on which my apiaries are located, except one, and that is on my brother's farm, and, all goes smoothly, and, is just to my liking. Some years ago I agreed with a man, to pay him $10.00 a year for setting a yard of bees on his farm, without specifying the time they could stay, or even drawing up any writings, and in two years was told to move off. Another instance was when a farm changed hands, and again I was told to move. Such experience is not pleasant, and I promised myself to make different arrangements in the future. So, I say, own the land on which your apiary sets, if you can.

When the land is yours, set the bees on, build a little honey house of drop-siding. Put in a floor, and have a flat roof covered with tin. Make the house six and one-half feet high, and five feet square, with the door opening *out*. This will hold a good load of comb honey. Don't put in a window, but have an opening, 18 inches square, on the top of the back side, covering it with a large screen cone Such a little house as this can be hauled on a wagon or a sled to any place where needed.

Such a house is sufficient for the comb honey producer, who has a large honey house at home, that will hold all of the honey from all of the little houses for the season's run. The house at home will need plenty of light, as here will be done all of the work of crating and cleaning, and nearly all other work. My little houses cost $18.00 each.

My cellars are sixteen feet long, by seven feet wide inside measure, and, seven feet deep. They are stoned solidly all around, except the doorway, boarded over head with groove roofing and battened. The roof should be quite steep to insure against leakage. There is a door left in one end of the attic, and over the upper floor are spread four inches of planer shavings. A ventilating chimney, one foot square, runs up ten feet above the peak. This ventilator is made from boards, one by twelve. I have found this ventilating chimney very valuable in connection with those small cellars, packed chuck full of bees. Much honey is saved by using these cellars, even in an open winter, and $28.00 builds such a cave. I find them to give entire satisfaction. There's no bother about the bees until it is time to take them out. These cellars should be well down in the ground, with a good thick coat of planer shavings on the floor over head, so as to keep the temperature high, say 45 to 50 degrees. Ten dollars will pay for a shed in which to run in a team of horses. Fifty-one dollars for housing stock, covers the bill in each yard.

A THOUSAND-DOLLAR MISTAKE.

I have no desire to change any of the above fixtures. When I first started to establish out-apiaries, I began making chaff hives, exactly after the pattern that the leaders sold upon the market, and I kept on until nearly two hundred had been made. Today, all except about two dozen are made over into single-walled hives and shade boards. The making of these chaff hives was the biggest mistake I ever made during all my bee-keeping life. It would take well up to a thousand dollars to pay for this one mistake. Bees winter far better when carried into a little shed, open to the south, and each colony packed over head with planer shavings, with good ventilation between the cover and the shavings, thus allowing all the moisture to escape from the planer shavings, than they winter in chaff hives and it is far cheaper. The chaff hive is very cumbersome to handle, besides, when an extra hard winter comes, it will "find you out."

The swarming problem, which has been such an apparent terror to us, is gradually sinking into insignificance. When we visited each yard each alternate day, swarming was easily managed, and we secured quite fair results. However, there was some "leakage" along this line, and I am practicing shook-swarming with some good results, although it is not altogether satisfactory. Some few persist in having a daily swarm, or they build drone comb and fool the time away. I am looking for more light along this line; will some one please turn on the "switch ?"

TIPPING OVER HIVES TO DISCOVER QUEEN CELLS.

While making shook-swarms, I found it considerable work to take off from one to four supers, in order to get down into the brood nest and find out if queen cells are being built, and I therefore put myself to work seeking an easier method. I now use what I call a "tilting board." Two persons walk up to the hive, thrust the bottom end of the tilting board under the back end of the hive, tip all carefully backwards, and take off the bottom board when the bottom of the brood chamber stares you squarely in the face. In one minute's time the operator can tell whether the swarming fever has set in or not. The hive bottom is then put back in place, and all let down again upon the four bricks as before. While going over the yard, all colonies that have eggs or larvae in queen cells are swarmed. Two men would be able to attend a thousand swarms worked in this way for comb honey, if the yards are not too distant.

We use horses to draw all loads to and from the yards; and when the horses are not needed to draw a load, a motor car or automobile is used, and is a great help in catching up. It saves the horses nearly altogether for load-work. The 'mobile is decidedly the best mode of travel among out-yards when no loads are to be drawn.

HOW TO START AN OUT-APIARY.

When the bee-keeper has 150 colonies at home, he is in position to start an out-yard. Here is the way to start: When spring is at hand, have all hives in readiness, and haul them to the ground where the new yard is to be located, also taking twenty good colonies of bees from the old yard. Order from some good, reliable queen breeder in the South, eighty untested queens to reach your station just at the beginning of the white clover flow. After your queens have arrived, go to the new yard, and carry two good frames of brood, bees and all, to each new hive, leaving the old queen on the old stand with two of the combs containing the least brood. This will furnish you eighty new colonies or nuclei, for the new queens that have arrived. Shut

those last eighty colonies up, with a screen over the fronts so that all have plenty of air, and, if very hot, shade the hives, and leave them shut up twenty-four hours. At evening, take the cages with those new queens, and insert them between the two frames of brood, with the screen down and the candy exposed. Shut them up for another twenty-four hours; at which time the screens may come off, and bees be liberated. If you are as successful as the writer has been, there will be no loss of any account, and as nice a lot of worker comb will be built on the remaining empty frames as one can be under any conditions; providing your queen breeder has served you as he should. This yard should be in first-class shape to do good work for the coming season. This way of starting an out-apiary suits me best of all—little work and good results.

THE HIRED HELP PROBLEM.

My idea of the hired help problem is that a skilful, trusty operator must be continually in the field, and the work so managed that one band of workers can go from yard to yard, looking for cells or making swarms, or doing whatever is necessary—especially so during the swarming season. Your helpers will have all of these little honey houses filled with supers ready to go on the hives before the honey harvest begins, which allows a grand good start in the beginning.

We have a buzz saw and have made all our hives from start to finish, and it certainly has been a great saving. One contemplating the making of hive own hives should be very particular to have all hives and all supers in all of their parts, an *exact pattern* of the first ones made, and that to be of some standard make. so that in all time to come all parts will be interchangeable. If one can do this and has the leisure time, I say make your own hives and supers, for, without a doubt, it will pay you well.

CLIPPING QUEENS.

For clipping queens, a pair of curved, pointed, little scissors, such as come with a manicure set, are just the thing; and we think all queens should be clipped before the swarming season opens up, for when you clip the queens you have the inside track on the bees.

CROSS BEES AND STINGING.

I have learned that it is not good policy to locate the out-apiary too close to where farm work is to be done. Try and have them hedged in by shrubs or trees so that the bees will not bother any one plowing corn, making hay, or passing by on the highway. In addition. handle the bees so as not to unduly enrage them, this will save you perhaps all trouble along this line.

If I were renting land to place bees upon, I don't know but I would have a large cellar at home, and haul them home in the fall, and out again in the spring. Thus I would not calculate to be substantially located on another's farm, as a cave is not movable, but all of the rest of the fixtures are.

MAQUOKETA, Iowa, Dec. 10, 1904.

Put the Bees in Early and Give Upward Ventilation.

C. A. OLMSTEAD.

FRIEND HUTCHINSON—I finished moving my bees from the out-apiary the day before election, putting some of them right into the cellar, but

left most of them out, hoping they would have another flight before going into the cellar. I shall not wait much longer, however, as those in the cellar have been so quiet one would not believe there was a live bee in the hives; and the cellar window is wide open to the west, so that the sun shines in in the afternoon. I am satisfied that, in this locality, bees are better off when put into the cellar the first part of November, before their honey and combs have been exposed to a freezing temperature and the other conditions that go with it. At this time, the combs are usually dry, while, if left in a freezing temperature for a while, there is considerable moisture all through the hive as the result of condensation. I believe that bees placed in a good cellar before hard freezing, with the hive perfectly dry, will stand six months' confinement, from October to May, far better than they would five months, or even four, beginning December 1st.

I am glad to learn that another has tried leaving the brood nest with only a cloth covering. It was by accident, or I think I better say necessity, that I learned of this great advantage. I had been leaving the bottoms off the hives for several winters, with the ordinary outcome, but two years ago I bought a lot of bees in hives that had tight bottoms; not boards nailed on the outside, but fitted *inside* and nailed in from the sides and back, so it was almost impossible to get them out. Under the circumstances, I did what I thought was the *next best* thing; left the bottoms in, and put pieces of old carpet over the frames, or brood nest, then laid two sticks across and set another hive on them, and so on, six hives high. I believe you can guess the result. It was such that I have since left all the bottoms on and the tops open, as above, and I don't ask for better results. We go through the cellar with a light, probably every day, as we have to go through the bee cellar to get to the vegetable cellar.

I tell you, Hutchinson, the inclination of bee-keepers to everlastingly follow the plans laid down or prescribed by others, giving the subject but little thought or study themselves, is the stumbling block to many who otherwise might make the business boom.

Just as soon as I found those bees wintering so well, I began looking into the matter. I took combs from the side, and found them and the hive perfectly dry and sweet; while those with bottoms off, but tops on, were damp, and the side-walls of the brood chamber had beads of water on the surface; in fact, the whole thing had that cold chilly feeling so characteristic of such a place.

Up to this time, two years ago, winter losses had been my worse trouble as there is practically nothing for my bees to get after basswood bloom (July 20).

There is not a day after that when my bees will not rob furiously if given a chance; and, necessarily, they go into winter in comparatively poor shape, as brood-rearing stops early.

Oh, yes, one thing more: I have tried the clipped *sting* plan for re-queening more thoroughly this summer and it works to perfection. I tried it with four and it was slick. Just put in a young virgin—or a laying queen that has been caged in the cluster a little while and that's all there is to it. Any time after that when you get your eye on her clip her sting then you will not have to hunt her up when you want to introduce another.

EAST BLOOMFIELD, N. Y., Nov. 10, '04.

Editorial

Julia Ida Mondeng, daughter of Mr. and Mrs. Chas. Mondeng, of Minneapolis was married to Mr. Ernest W. Langdon, on Oct. 30th. The Review extends its congratulations.

Michigan Dairymen will hold their annual convention in Jackson, Feb. 27th, 28th and March 1st, and it has been suggested that the Michigan bee-keepers hold their annual convention at the same time and place, in order to take advantage of the reduced rates. Suggestions will be in order.

Lectures on Bees and Honey, before day and Sunday schools, might be made to do much good. Reference has been made in these columns before in regard to the work done in this line by Mr. Hershiser, of Buffalo, and, from hand bills that have just come to hand, I see that Mr. John C. Frohliger, of Cincinnati, Vice President of the Hamilton County Bee-Keepers' Association, has been doing some work in this line. In his lecture, Mr. Frohliger uses part of a hive of bees.

Wooden Toothpicks are used by Walter Hanner for giving prospective customers a taste of honey. In one corner of his canvassing case he has a holder filled with toothpicks, and one of these is thrust into a bottle of thick, ripe honey, when enough will adhere to give quite a generous taste to the recipient. One of these can be given to each member of the family, children and all. Every one getting a taste of honey on one of these new clean pieces of wood feels sure that it has never been in some one else's mouth, while the amount of honey given is just about enough to whet the appetite for more.

A Receipt is not sent by magazines and journals when a renewal is received. Upon the address label, pasted upon the wrapper in which the paper is mailed, appears the date to which the subscription has been paid. When a renewal is received, this date is put ahead to correspond with the payment. If the date on the label of your Review-wrapper is "Dec. 05" it shows that your subscription is paid to that date. When you send in your dollar as a renewal, look at the date upon the label attached to the *next* copy that you receive. If it says "Dec. 06," that shows that your dollar was received, and answers every purpose of a receipt. If your next paper after sending in a renewal does not show this change of date, then make inquiries at once. By looking at this date upon your wrapper-label, you can tell at any time the date to which your subscription has been paid.

Notice the change of dates and place for holding the National Convention The change of dates was made because the Fat Stock Show was postponed two weeks, the reason given being "the inability of the builders of the amphitheater to secure structural steel for the same;" the managers did not wish to hold the show out of doors, hence the delay. There will now be no reduced railroad rates d uring the first week in December, and, as it would be suicidal to attempt the holding of a convention without reduced rates, the dates have been put off until Dec. 19th, 20th and 21st.

The place of meeting has been changed because it was feared that the accommodations at the Revere House

might prove too limited. Brunt Hall, the new place of meeting, is in a new building where everything is modern. There are adjoining committee and toilet rooms, good drinking water, also excellent elevator service both day and night. Chicago bee-keepers with their characteristic enterprise and liberality, pay for the use of the hall.

My Bees are all in the cellar. They were put in from November 4th to November 10th. Part of them had not had a flight in two weeks, and some of them had a flight the day before being put in. Had the apiary been near the cellar where the bees could have been rushed into the cellar in two or three hours if I saw that winter was coming on, I might have left them out two or three weeks longer. As it was, they had to be packed up and brought home, then unpacked, and carried into the cellar, and it would not answer to wait until winter was coming on before beginning the work. None of them had a flight after being moved. The bottom boards and covers were removed, a piece of rag carpet laid over each hive, and the hives stacked up with two-inch blocks between them. This is the earliest I have ever put bees in the cellar, and I shall be interested in seeing how they pass the winter.

Feeding Bees in Winter.

If bees need feeding in winter, the usual advice is to give them candy, unless combs of honey can be secured. This advice is good but the inference that syrup cannot be successfully fed is not correct, provided the bees are in a dry, warm cellar. For instance, the sudden and unexpected closing of the honey harvest in 1904, left the 80 colonies of Mr. Walter Harmer, of Manistee, Michigan, short of stores—some of them with scarcely any sealed stores. He did not have the money with which to buy sugar until he had sold some of his honey, consequently the bees went into the cellar very deficient in stores. In December he had the money to buy sugar and began feeding the bees a syrup made as follows: The kettle was filled nearly full of granulated sugar, a mark made on the side of the kettle showing the height to which it was filled, then boiling water was poured in until it reached this mark. In other words, the water simply filled the spaces between the grains of sugar. The kettle was set upon the stove and the syrup stirred until the sugar had all dissolved. This syrup was fed warm in what has been called the pepper box feeder. Mr. Harmer made them from pint, Mason jars, by removing the porcelain from the covers and perforating the covers with a small punch. If a colony was at all weak, a hole was cut in the cover, over which the jar of syrup was inverted. With strong colonies, the covers were simply removed and the jars of syrup inverted upon the tops of the brood frames, a little rim of tin being used to hold up the can so that the bees could gain access to the syrup. After the upper tiers of colonies had been fed, they were placed somewhere else, and the bees fed in the next tier; in fact, the bees were fussed with, fed, and the hives piled over and over, until one would naturally think that the life would have been worried out of them, but it was not, as they came through in fine condition, with no trace whatever of disease. The cellar was dug in dry sand, the temperature kept not far from 40 degrees, and the covers slid forward on the hives so as to leave a crack of an inch at the back end for ventilation of the hive.

Mr. Harmer does not recommend this method of management; he would prefer to feed in the fall before putting the bees into the cellar, but what he has done shows what *can* be done should occasion require. It also shows that, with the proper food, disturbance

seems to have no deleterious effect upon bees in a warm cellar.

Program for the National Convention.

The National Bee-Keepers' Association will hold its annual convention Dec. 19th, 20th and 21st in Brunt Hall, in the Bush Temple of Music, corner of Clark St., and Chicago Ave., entrance on Clark St., Chicago, Ills. This hall is only five minutes walk north, on Clark St., from the Revere House, corner of Clark and Michigan Sts., which will be headquarters for the members of the convention. Rates at the hotel are 75 cts for a room alone, or 50 cts each, where two occupy the same room. Meals are extra, or they may be secured at nearby restaurants. The program is as follows:—

FIRST DAY.

Evening Session—7:30 p. m.

Wax-Rendering Methods and Their Faults.....
O. L. Hershiser, Buffalo, N. Y.
Can the Tariff on Comb Honey be Tinkered to the Advantage of the U. S. Bee-Keeper?.....
Hildreth & Segelken, New York

SECOND DAY.

Morning Session—9:30 a. m.

How Many Bees Shall a Man Keep?....
E. D. Townsend, Remus, Mich.
Short Cuts in Bee-Keeping.....
M. A. Gill, Longmont, Colo.
Producing Both Comb and Extracted Honey on the Same Colony .....
Jas. A. Green, Grand Junction, Colo.
Question Box.....

Afternoon Session—2:00 p. m.

The Control of Increase.....
L. Stachelhausen, Converse, Texas.
Migratory Bee-Keeping.....
R. F. Holtermann, Brantford, Canada.
The Dietic and Hygenic Value of Honey,.....
Dr. Eaton, Chicago, Ills.
Question Box.....

Evening Session—7:30 p. m.

Contagious Diseases Among Bees and How to Distinguish Them.....
Dr. Wm. R. Howard, Ft. Worth, Texas
Experimental Apiculture.....
Dr. E. F. Philips, Washington, D. C.

THIRD DAY.

Morning Session—9:30 a. m.

The Honey Producers' League—Can it Help Bee-Keepers?.....
R. L. Taylor, Lapeer, Mich.
The Business End of Bee-Keeping.....
N. E. France, Platteville, Wis.
Making Honey Vinegar.....
H. M. Arnd, Chicago, Ill.
Question Box.....

Afternoon Session—2:00 p. m.

In What Way Can Bee-Keepers Secure Their Supplies at Lower Prices?.....
W. H. Putnam, River Falls, Wis.
How the Producer and Dealer May Advance Their Mutual Interests.....
Fred. W. Muth, Cincinnati, Ohio.
Question Box.....

Evening Session—7:30 p. m.

What Have we to Hope for from the Non-Swarming Hive? .....
L. A. Aspinwall, Jackson, Mich.
Poultry Keeping for the Bee-Keeper...
E. T. Abbott, St. Joseph, Mo.

W. Z. HUTCHINSON, Secretary.

Getting Rid of Black Brood.

Mr. E. W. Alexander, of Delanson, New York, tells in Gleanings how he has successfully rid his apiary of that terrible scourge, black brood, without the loss of a single comb. The plan is very simple, and easy of application. It consists simply of removing the queen, then, in nine days removing every queen cell, or virgin queens, if hatched, a virgin *Italian* queen, or queen cell being given on the twentieth day after the queen was removed. The theory is that during the period when the bees are without brood, but have a young queen, they thoroughly clean out, polish and repolish the cells in expectation of the time when the queen will begin to lay. It has long been known that Italian bees were able, for some reason, to more successfully combat with black brood. In the light of Mr. Alexander's experience, the edito-

of Gleanings suggests that it may be on account of their more thorough *house cleaning*. Let the cause be what it may, it is well known in New York that the first step in getting rid of black brood is the introduction of Italian blood.

It is also well-known that bees clean out and polish the cells in which the queen is to lay, and this period of queenlessness may induce the bees to do a more thorough job, and in a complete and wholesale manner. If the germs of the disease are still left in the honey, it would seem that the disease would again break out as soon as any of the old, infected honey was fed to the larvae. Mr. Alexander says, however, that he has been testing this treatment for three years, on hundreds of colonies.

It might be asked why the period of broodlessness between the end of the breeding season in the fall, and its beginning in the spring, might not bring about a cure in the same manner as the removal of the queen in the height of the season. The theory is that the bees in the fall do not polish up the cells as they do in the breeding season. The combs are left smeared with the dead brood, and the stuff dries on hard.

Gleanings brings up the question as to whether foul brood might not be successfully treated in the same manner. Mr. Alexander is somewhat doubtful; as the dead matter in foul brood forms a more tenacious glue than is formed by black brood. In this connection it may be interesting to know that Mr. Simmins of England, author of the book entitled "A Modern Bee Farm," asserts that fou brood may be cured in exactly the same manner as that followed by Mr. Alexander in treating black brood. His theory, however, is that the spores are bound to germinate in the hive, and, if they germinate where there is *no soil to support them* (no brood) their existence is soon terminated. (See page 54 of Review for last February.)

I can only say, as I have said so often when something seemed unreasonable, yet promised great things, withhold judgment. Don't pooh, pooh it, and condemn it untried, and don't take it for granted that it will work all right with you because it has with some one else in some other locality and under other conditions. This method has been given quite an extensive trial by a man in whom I have great confidence, so I say try it, both for black and foul brood, although I must confess that I have very little, if any hopes, for the latter.

The Control of Increase.

A very few of us can remember when the control of increase was almost unknown, and seldom practiced. A colony swarmed when it got ready, and there was no attempt to foretell, forstall or prevent the act. It was necessary to watch the bees almost constantly during the swarming-season; and when a swarm issued it was hived upon a new stand, and, in due time, the parent colony sent out one, two, or three after-swarms. With the advent of movable combs came artificial swarming, but this was often so poorly managed that after we had had our turn at it the bees took theirs. Queen traps, the clipping of queens' wings, non-swarming hives, queen cell detectors, shook-swarming, the removing of queens, the prevention of after-swarming, etc., were all unknown. The management of an out-apiary without some one in constant attendance would have been impossible. Gradually we learned to control after-swarming, or eliminate it entirely if so desired. We could open the hive and cut out all the queen cells except one; or we could hive the swarm upon the old stand, brush the bees from the combs into the hive containing the swarm and divide up the brood among weak colonies; or those that we

were building up from nuclei into full colonies; or we could hive the swarm upon the old stand and set the old colony by the side of the newly hived swarm for one week, then move it to a new location, when all of the flying bees, or those that had flown and marked the old location, would return and join the swarm, thus weakening the old colony to such an extent, just as the young queens were hatching, that all thoughts of further swarming were abandoned. Sometimes, instead of giving the old colony a permanent new stand, it was simply shifted to the opposite side of the newly hived swarm, then, in a week or so, returned to its former location, this shifting process being continued until the old hive was practically drained of its bees, and the combs left free from brood. Again, the old hive was placed upon the top of the new one, its entrance closed, and a spout or channel of lath extended from its entrance down to the entrance to the lower hive. The bees could leave their hives only by means of this channel, and, upon their return, instead of seeking the entrance to the channel, from which they had issued, they joined the forces in the lower hive. In this manner the old hive was gradually drained of its bees as they hatched and became old enough to fly. Sometimes the old hive is set on top of the new, with a queen excluder between them, and the young bees, as they hatch, are able to join the throng below. With this latter plan the bees are given an opportunity to fill the combs in the upper hive with honey, as the young bees hatch out.

It will be seen that, even though natural swarming is allowed, it is an easy matter to prevent after-swarming in an apiary having constant attendance. To prevent the issuing of first swarms is a more difficult proceeding, but it *can* be done. In some parts of the country, notably in the South and West, there is practically no swarming after the beginning of the main honey flow; and this is the case, to a large extent, in all parts of the country. A light flow is conducive to swarming, but, with the advent of a heavy flow, the bees seem so carried away as to forget swarming. If swarming can be discouraged until the main flow, all goes well in some localities. The taking away of more or less brood will usually accomplish the desired result. This is about the only reason that justifies the taking of brood from strong colonies and giving it to the weak. If there are no weak colonies, and it is desired to make a little increase, and thereby prevent swarming, it can often be accomplished by taking two combs of sealed brood from each strong colony, shaking off the bees, filling hives with these combs of brood, setting each hive over a populous colony, with a queen excluder between the added hive of combs and the colony below, and allowing the hive to remain a few hours until the young bees have come up and occupied the combs, when the upper stories of brood and young bees may be placed upon new stands, and each given a laying queen, or, if this isn't possible, a queen cell. The places in the old colonies left vacant by the removal of combs of brood must be filled with sheets of foundation. This removal of brood will retard swarming, and may tide over the swarming until the advent of the main honey flow puts upon it a still further check. By the way, the plan just mentioned is an excellent one at any time for the making of increase, and does away with all hunting for queens.

The making of a moderate increase, in the right manner, in the early part of the season, will often practically prevent swarming. There are several methods. What is called the Doolittle plan is a very good one. This consists of making one new colony from two old ones, and is managed as follows: Shake all the bees and the

queen off the combs of the colony, letting them run into a new hive with either starters or full sheets of foundation in the frames. Move another strong colony to a new stand, and place the hive of beeless brood upon the stand of the removed colony. The colony thus formed, is of course, furnished with a queen or queen cell.

As a rule, there is less swarming from large hives. If to this we add the production of extracted honey, which allows the giving of abundance of drawn combs, there will not, as a rule, be very much swarming. Mr. E. D. Townsend, by the use of ten-frame Langstroth hives, putting on two upper stories of combs at the beginning of the main flow, and not using any queen excluder, was able to manage an apiary with only four visits a year—once to unpack the bees in the spring, once to put on the upper stories of combs, once to extract, and again to pack up the bees for winter. There was an occasional swarm, but not enough of them to warrant the expense of constant attendance.

Of course, it is possible to prevent swarming, both by dividing the colonies, either permanently or temporarily, or by removing the queens. If the bee-keeper wishes, he can examine each colony as often as once a week. When he finds a colony starting queen cells, there are two courses open; that of dividing the colony, or destroying the queen cells that have been started, and removing, or caging, the queen. If the queen is removed, a comb of brood and bees is taken with her, and all kept in another hive until it is time to return the queen. Eight or nine days later, the queen cells should be again broken out in the old colony, leaving the colony hopelessly queenless. A week later, the old queen can be returned. Another plan is that of removing the old queen, killing her if there is no other use for her, allowing a batch of queen cells to nearly mature, then removing all of them except one, which is allowed to hatch, and the queen to become the head of the colony. While this plan of removing the queens during the swarming season is very effectual, it has not, for some reason, ever become popular—perhaps it is because of the work that it entails. The other plan, that of dividing a colony showing signs of swarming, has sprung very rapidly into quite general use; "shook-swarming" being the usual method of division. In making a "shook-swarm," the bees are disturbed, the hive drummed upon, or something of this sort, and thus they are induced to fill themselves with honey. This filling of their sacs seems to be a very important part of the program. The queen and most of the bees are then shaken or brushed into a new hive set upon the old stand, the frames being furnished with either starters or full sheets of foundation, and the supers, if any there are, being transferred to the new hive; and the old hive placed upon a new stand. Sometimes the bees from *two* colonies are shaken together into one hive, thus making a very strong swarm. The old colony is placed by the side of the new one, or upon top of it, and the bees, as they hatch and fly, are gradually enticed into the new hive, as was explained when describing natural swarming methods. This method not only prevents swarming, but increase, as well. It results in the building of an extra set of brood combs, but I think they are built at a profit.

Then there is the plan of making a temporary division of a colony, leaving a comb of brood and some frames with starters on the old stand, with the supers over them, and setting the old hive aside for a few days, (from four to six) until the bees have destroyed the queen cells that have been started, when the two portions are again united upon the old stand. This plan has been called the Sibbald plan. It has

not been used very extensively, and has been quite severely criticised, but there have been some very satisfactory reports from the use of this plan.

Of course, colonies can be divided just the same if they are not making preparations for swarming, but, as a rule, the bee-keeper would rather not disturb a colony that is working well, and will not swarm, hence, the general practice is to examine colonies once a week, and manipulate those that are starting queen cells. The examination of colonies to see if they are building cells is really the great objection to this system of controlling increase, but there are methods whereby even this difficulty may be greatly lessened. For instance, Mr. F. H. Cyrenius of New York, has a simple clamp by means of which the supers may be very quickly and securely fastened to the hive so that it may be tipped over backwards, and the lower parts of the brood combs examined for queen cells. Mr. R. F. Holtermann of Ontario also has a cell detector, a hole in the back of the hive whereby a view may be gained of the edge of a comb in the center of the brood nest—a most enticing place for the building of queen cells when all of the combs are smooth and perfect. Another prominent Canadian bee-keeper has an arrangement whereby the supers and upper section of a Heddon hive can be tipped back, exposing that portion of the brood nest (the space between the two sets of combs) where the queen cells are nearly always built. This man manages several apiaries, and he told me recently that this device, that allows of this quick, easy examination of the brood nests, saves him one man's wages durthe swarming season.

The tendency of the times is towards specialty, towards the keeping of more bees and the establishing of out-apiaries. With this system of management, the prevention or control of increase is the leading feature of the problem. Of course, it *has* been managed, and *can* be managed, but the question that the Review now proposes to discuss, from the ground up, is, how can it be managed to the *best advantage?* In this editorial I have gone briefly over the leading features of the different methods, and now I wish for a most thorough discussion, and am ready to pay liberally for articles on the subject.

EXTRACTED DEPARTMENT.

BEE-KEEPING AS A SPECIALTY.

Some Reasons Why it May be Followed to Advantage.

After years of pleading for specialty there is no little gratification to occasionally see some of the leaders falling into line, as does Grant Stanley in the American Bee Journal, where he says:—

There has never been a time in the history of this country in which the service of the specialist was in such great demand as it is at the present time. We see it on every hand; the cry goes out all over the land for specialists; it goes out from all manufacturing establishments, it goes out from railroad companies, for men specially fitted for various lines of work; it goes out from every branch of the Department of Agriculture, at Washington; it even goes out from patients seeking treatment for various diseases. The cry today is for the specialist. We fairly seem to be passing through a reconstruction period. The reason for all this is not far to seek; surrounding conditions have become remarkably changed, and along with it various questions of a complicated nature, as

well as of extreme importance, have presented themselves; questions of such a nature that only the specialist, or one who has been specially trained, can bring the result of his efforts into practical use—men of ordinary intelligence and ability will not do.

That bee-keeping has received a wonderful impetus within the last year or two there can be little doubt. This too long neglected pursuit is at this time receiving special attention. The Department of Agriculture, at Washington, has been awakened to its possibilities, the various State experiment stations are offering short courses in bee-culture, and some have even arranged correspondence courses for those unable to attend the school. There is certainly plenty of room for specialists in the bee-keeping ranks, and, as in any business, their efforts, properly directed, will result in great benefit to himself as well as to others; in fact, no well directed effort is spent in vain. The bee-keeper who will specialize will soon find that his word has become authority, and, furthermore, his service will quite likely be in demand.

The bee-keeper who will specialize will have studied the various bee-diseases, and will be in position to eradicate any disease the minute it becomes manifest in his apiary; yes, he will quite likely go a step further, and apply such preventive measures that his bees will not become diseased; he will have mastered the question of disposing of his honey crop at the highest possible price obtainable; in fact, he will so direct his efforts that his product will be in demand; he will be able to reduce winter losses to a minimum, as a result of his thoroughly studying the essential features of successful wintering; the blooming of all nectar-producing plants will receive like consideration, in fact, the whole subject will be held up and studied on every side. It is the men who have become thoroughly acquainted with the elements underlying success at every point, to whom we must look to carry this work forward.

There are too many people who look in bee-culture as a business of little importance; in fact, enough would laugh at the idea of making bee-keeping a specialty. Others have not sufficient confidence in themselves to "keep all eggs in one basket," but is it not true that the men making a specialty of their business are the most successful? Is it not true that with a combination of pursuits a man must direct his thought and energy in several places at the same time, not being able to bring the best out of any of them, while in making a specialty of one pursuit his whole thought and effort is centered to one point? And is it not true that only in this manner will the highest success be achieved?

Let us remember that what is worth doing at all is worth doing well; it is worthy our best efforts, and I assure you that if proper remedies are applied bee-culture will be brought to a very high degree in the near future.

THE SWARMING OF BEES.

The Causes and Some of the Methods Whereby it May be Prevented.

The tendency of the times is towards specialty, towards the establishing of out-apiaries, and the keeping of more bees. The one great obstacle to success is the inability to properly control increase, and the Review has set itself the task of removing this obstacle, or lessening it to the greatest possible extent. It is none too soon to begin the discussion of the question, in order to help bee-keepers in this direction another season, and it is doubtful if the discussion can be started more satisfactorily than by copying from the Western Bee Journal an exhaustive article by that past master on this subject, Mr. Stachelhausen of Texas. It is a long article, I think the longest the Review has ever copied, but it is well worth the space it occupies.

In the Western Bee Journal for May I find some interesting articles written by Mr. Adrian Getaz, one of them on the prevention of swarming. About the cause of swarming Mr. Getaz says:

"Before treating a patient the doctor must know what ails him, and before treating our swarming bees we must know the cause of their swarming." Reading thus far, I expected Mr. Getaz would explain these causes, as he is one of the scientists in our bee-keeping fraternity, but this expectation was destroyed when I read the following sentence: "Or, if not actual causes

themselves, at least the conditions under which it occurs, and remove these conditions." In fact, in the following lines nothing more is said about the actual *causes* of swarming, but some conditions are explained under which swarming can be expected.

Do we, in fact, *know* anything about these actual causes of swarming? I will explain in this article that we are not *entirely* in the dark in this respect; but some knowledge of the physiology of the bees is necessary; especially in regard to nourishment, if we are to understand the condition under which the different impulses of bees will appear.

THE PREPARATION OF LARVAE FOOD AND HOW IT INFLUENCES SWARMING.

For nourishment the bees have pollen and honey only, and prepare from these all the different foods for queen, drones and workers, and for the different larvae. The process of digestion in the body of a worker bee is very much simplified compared with the same process in higher animals. It goes on in the following way: If pollen is chewed by the bee it is mixed with saliva, and the same takes place if nectar is sucked through the so-called tongue. This saliva is important for digestion, then the food is swallowed into the true or chyle stomach, where it is fully digested. The partially digested food we call chyme; the fully digested food is called chyle; both we can find in the true stomach at different times and stages of digestion. If chyle remains in the true stomach for some time it passes through the wall of this stomach and is mixed with the blood, is, in fact, identical with blood. The process of digestion, as it is here explained, is accepted by all scientists.

Now, by the help of that wonderful organ called the stomach-mouth the contents of the true stomach can be regurgitated, and can be used as food for other parts of the bee family. Queen-larvae receive fully digested chyle in large quantities till the cell is capped by the bees. To the queen herself the same chyle is fed, because she can't eat pollen, but she helps herself to honey. To worker and drone-larvae chyle is fed the first three days of their larval state, and after this chyme is mixed in larger quantities, and, from the fifth day, till the larvae are capped, honey and pollen are fed to them. That the royal-jelly and the larval food are fully digested chyle, and regurgitated from the true stomach is a discovery of Pastor Schonfeld. It is accepted by T. W. Cowan of England (The Honey Bee, page 120) and by Prof. A. J. Cook (Manual of the Apiary, page 141), while Cheshire in his book explains the older theory, that this larval food is a secretion of glands. It would take too much space here to explain why this gland theory is untrue and impossible.

Now, we will consider the cause of swarming. That bees are caused to swarm by their instinct or impulses, and not by some kind of *reasoning*, I do not think it necessary to explain to the reader; and the same is true with all other actions of the bees. The question is: by what conditions and in what way are induced these different impulses? In a given colony of bees we can observe that with the advance of the season different impulses will appear in a certain order. During the winter bees are in a semi-dormant state; at least in colder climates. With warm weather, especially after the first flight, the impulse for breeding will appear. Here in the South this is in close connection with the first gathered pollen. The bees, becoming more active, eat pollen, digest it to chyle, which is fed to the queen, stimulating her ovaries to activity, and eggs are laid, and when the young larvae appear chyle is again fed to them.

We may suppose that one worker bee can prepare enough chyle to feed 10 worker larvae. We know that feeding larvae is the first duty of a young bee. When the young bees begin gnawing out of the cells there will soon be enough young bees in the hive to feed ten times as many larvae as it was possible during the first breeding period of 21 days. In the third period, 100 times as many can and will be fed. If the colony is strong, and has a prolific queen in early spring, and, consequently, starts a large patch of brood, there will soon be a condition in which the young bees will prepare more chyle than can be consumed by the larvae. The consequence is that this chyle cannot be regurgitated at once. It will remain in the stomach for some time, and a large part of it will go into the blood in the body of the bee and will enrich it, or cause a kind of extension of the blood.

According to Gerstung's theory this gradually increasing extension of the blood is the actual physiological cause of different impulses. At first the surplus of blood acts upon the wax glands; wax is secreted and combs are built if possible. But hereby no albumen is consumed, the blood will get richer on nitrogen, and the impulse to build drone combs and raise drones is incited; and if the blood is still more extended queen cells are started. As chyle is feed to the queen by the young worker bees, and as this chyle has the same chemical composition as the blood of the worker bees, the queen is governed by the same impulses as the worker bees and will lay eggs in drone and queen cells. If queen cells are started and larvae raised in them a swarm will follow by necessity.

This is, briefly, the theory of swarming.

HOW SWARMING MAY BE PREVENTED.

If this theory is correct, it will be plain that we can prevent swarming for some time, at least if we satisfy as much as possible the lower impulses; because we prevent the extension of the blood and thereby the appearance of higher impulses. The first requirement is to give a large brood-nest: a large hive filled with empty combs. The queen can lay more eggs than in a small hive. But this is not sufficient. The brood-nest of a normal colony will always show a certain order. The queen is laying eggs in a circle, or rather in the form of shells like the skin around an onion. The brood of the same age will always be close together. If we destroy this order, the queen can't lay as many eggs. She may find capped brood where she expects empty cells. If the bee-keeper, for instance, places an empty comb between two frames of capped brood, he will very probably observe that these combs will remain empty for some time, till the young bees in the neighboring combs hatch out of the cells. Such empty combs should be given just where the queen is laying eggs in the center of the combs, or outside of the brood-nest between the last brood comb and the pollen comb. If this is not observed, the spreading of the brood will do more damage than good. Another hindrance in egg-laying is frames very shallow or very narrow. As the queen soon arrives at these ends of the combs, her circle of egg-laying is broken, and she has to hunt for another patch of empty cells. Thus, not only is a large brood-nest required, but it should also contain large combs; a hive with many small combs will contain less brood than one of fewer and larger combs, both having the same comb surface.

The queens, too, are very different in prolificness. Some may lay 3000, even 4000, eggs daily, others only 2000 at the most. Some colonies are strong, and may start with a few cells of brood. All these differences have some influences on the time when the swarming impulse will appear, and this influence is quite in accordance with our theory.

If the secretion of wax and comb building have commenced, we can delay swarming by satisfying this impulse. On this principle is based the "Simmins non-swarming system." Simmins induces the bees to build combs between the brood-nest and the alighting-hole, and repeatedly cuts away these combs. Under certain circumstances, swarming can be prevented in this way.

If we take from a colony some capped brood, and give, in its place, combs with eggs and young larvae, we can prevent swarming for several days, because we diminish the number of bees which will soon prepare chyle, and we enlarge the number of *consumers* of this chyle. To the contrary, we can induce a colony to swarm if we take away open brood and give some capped brood.

Another observation made by bee-keepers, especially here in Texas, is that during the main honey flow no colony will swarm if this flow is very good, and if the colony had no queen cells when the flow commenced. In some years, even drones are driven out of the hive by some colonies during the flow. Generally it is asserted that a honey flow is favorable to swarming. Here, the contrary is true. This fact is not explained as yet, nevertheless, the explanation is very simple. As a rule, all worker bees eat pollen, if they need nitrogenous food, but during a very rapid honey flow, if all hands are at work, a new division of labor takes place. Chyle is feed by the young bees to the *field bees*, and so all the surplus of chyle is consumed; sometimes even so much that the brood nest is contracted too much, and every empty cell filled with honey. That during such honey flows the field bees are in fact fed by

the young bees, can easily be observed by any bee-keeper.

It is recommended by some to prevent swarming by placing the queen with one or two brood combs in a new hive on the old stand. On top of it is placed a queen excluder, and over this the hive with the other brood combs. How can this way of prevention of swarming be explained by Gerstung's theory? At first it must be considered that the queen excluder is so much of a hindrance for the bees that, to a certain degree, the two parts divided by the excluder feel themselves as two different colonies, but not so much that the bees above feel entirely queenless, and would start queen cells, but just enough so that they nurse queen larvae, if such are present. The bees above are dissatisfied with the laying power of the queen, and will start queen cups and expect the queen to lay eggs in them. Above the excluder we find all the signs of the swarming impulse. The bees below the excluder are in the condition of a swarm; little brood will be reared, or combs built. The bees below will not swarm and the bees above *cannot*. This is the reason why we can raise queens in such supers as well as from swarm cells, if the colony is strong enough. Here is another important fact; the young bees, as long as they are nurse-bees, generally do not leave the place in the hive where they have hatched from the cells: another reason why the brood should not be destroyed.

Mr. Getaz mentions the lack of ventilation as a condition which may induce swarming. He says the real cause is overheating. The brood itself, by consuming a large quantity of food, produces a considerable quantity of heat. If the hive is exposed to the sun, and has no good ventilation, the bees can hardly keep the temperature low enough to prevent the melting down of the combs. They sometimes remove the eggs from the cells. Young larvae may die by overheating, and so a surplus of chyle can be caused. Such a condition is very unsatisfactory to the bees, and sometimes they move out of the hive, as a swarm, without having started queen cells.

If we work for comb honey, we cannot give a surplus of empty cells. The brood is crowded by the honey, which the bees store in the brood-nest because in the supers are no empty cells, simply foundation not drawn out as yet, and so the condition is created by which the swarming impulse will appear. Here we need other ways to prevent swarming.

If a colony shall store honey in sections, we need a small brood-nest, in which, if possible, every cell is occupied by brood; no empty cells should be present, in which the bees can store honey. Such a condition forces the bees to work in the section supers, but, at the same time, it is very favorable to cause a surplus of chyle, as the queen cannot lay to her full capacity, and, so, the swarming impulse will appear.

These small brood chambers have another disadvantage in the spring. They are not favorable to brood-rearing. To overcome this, spreading of the brood is recommended, but, generally, more damage is done thereby than good. A better way seems to me to use a divisible brood chamber, large enough for brooding, and when the main honey flow commences, remove one half of it to the top of the section supers.

The practice of comb honey producers generally, was to let those colonies with small brood chambers alone. If they do not swarm, the bee-keeper accepted the situation thankfully; if a colony did swarm, this swarm was hived on starters, set on the old stand, and the supers given to this swarm. If Heddon's plan to prevent after-swarms were used, and so much more bees added to the swarm, such a colony generally gathered as much honey as another colony that did not swarm at all. If we have out-apiaries for comb honey this plan can't be used; for this purpose we need a way to prevent natural swarming entirely.

The best way to prevent swarming is to prevent the *start* of the swarming impulse. If this is not possible, the next best thing is to satisfy this impulse. We can do this in different ways, as I will explain. The least satisfactory way would be to prevent swarming in a mechanical way, and at the same time leaving the condition which caused the swarming impulse.

For instance, we could prevent swarming by a queen excluder or a queen trap, but such a colony would probably swarm out every day till the old queen would be killed. Then a young queen would lead out swarms several times a day. During all this time very little is done in the supers; the bees are sulking; the whole state of affairs is apparently very unsatisfactory to the bees.

OBJECTIONS TO CAGING OR REMOVING THE QUEEN.

If we cage the queen, and release her a certain time afterwards, we can hardly expect a much better success. Mr. Getaz recommends the following manipulation: The queen is caged a little before swarming time, the queen cells are destroyed, and the queen released a few days later, but not until the colony has been at least a few days without unsealed brood. I tried this plan several times, and had no success. Dr. Miller reports in his book, page 179, no case of success with this plan. In other localities the plan may work better. Mr. Getaz explains his success in the following way: "During these four days or more without unsealed brood, the young bees having no brood to feed, take to the field, and become actually field bees, notwithstanding their age, or rather youngness." I am sure this idea is not based on facts. It is proven by many experiments that under no circumstances will a worker bee fly out of the hive before she is about 12 days old. If this were not so, and a young bee could become a field bee, if not enough brood is present, the swarming impulse would *never appear in any colony.* If the plan succeeds, the reason is, that, during that 10 or 12 days, while the queen is caged, a large number of cells will get empty by the hatching of young bees. Now the queen is released; if the bees have not filled these cells with honey, and if the queen is prolific, she can lay many more eggs than she was laying 21 days before. The nurse bees now have enough larvae to feed, and no surplus of chyle is produced, at least not enough to arouse the swarming impulse. Till all these cells are occupied with brood, danger of swarming is past.

Another way is to remove the queen entirely, and allow the colony to raise a young one, at the proper time destroying the surplus queen-cells. By this plan the colony is weakened considerably, even more than with the caging plan. It is said that a young queen, if fertilized, will not swarm in the first year of her life. Gravenhorst and Dr. Miller say she will not swarm if reared in the same colony, but, if in a colony an old queen is exchanged for a young one, such a queen may swarm. Baron Berlepsch said that young queens of the brown German race would never swarm the first year, while with the Italian race we can't depend on this rule. Probably this difference in the race, and the interruption of many days in brood-rearing, are the real causes of these differences.

The proper way to prevent swarming, when queen cells are already started, is to satisfy the swarming impulse by making them swarm artificially. This can be done in different ways, if some increase is wanted. If no increase is desired, one of the simplest ways is that known as the "shook-swarm system." By manipulating the old hive, the whole force of bees can be thrown in the swarm on the old stand. This method has generally given satisfaction, but Mr. Getaz has the objection "that a new brood nest has to be built, and the work, honey and time spent thus would be more profitable in the super." This *seems* reasonable, but just this building of a new brood nest consumes the surplus chyle and cures the swarming impulse. If this surplus chyle is not removed, the bees do more or less building. The plan has another advantage: As there are no empty cells in the brood nest, the gathered honey must be stored in the super, and there is done the most comb building; in fact, in the brood nest no more cells are built than are necessary for the queen to lay eggs. According to my experience, this building of a brood nest is *clear gain.* This shook-swarm plan has another important advantage. During spring we can use large brood chambers, in which the colonies build up much better without any spreading of the brood and other manipulations. When the honey flow commences the bees are forced into the supers by making the artificial swarm and using a contracted brood nest.

Even this building of a new brood nest can be avoided in such localities, where a less radical management is sufficient to prevent swarming. For 15 years, I have known of two such ways.

1. The old colony is removed from its stand and a new hive containing some empty combs and some starters is set in its place. From the old colony we take a brood comb with one or more queen cells, and set it between two empty combs in the new hive. By brushing or shaking, more bees from the old hive are added to this swarm, being careful not to get the queen in with the bees. (It will be best to cage the old queen during the operation). The section supers are given to the old stand, and the parent colony having the old queen is set to one side, or on

top of the swarm. By this manipulation the parent colony is weakened so much that the bees will destroy all queen cells. This generally takes place in less than 6 days, when both colonies can be reunited. The queens cells on this one frame of brood in the swarm are destroyed, the brood comb set back in its place in the parent colony, the new hive removed and the parent colony set back on the old stand.

2. A brushed swarm is made on the old stand with the old queen, and the parent colony with queen cells is set to one side or on top of this swarm. Just as with the shook swarm system. As soon as a young queen is hatched, and has destroyed the other cells, we can reunite. If the old queen is to be kept, we do not need to hunt for the young queen in the parent colony. At evening, before the bees cease to fly, we exchange the places of the two colonies for about an hour, so that many field bees from the swarm will enter the parent colony; then the hives change places again. These field bees are used to an old queen, and will, during the night, kill the young queen. The next morning the hive can be rearranged and the colonies united. The best way would be to wait till the young queen is fertilized, then the old queen can be removed and both colonies united.

In this way no new brood nest is built, and the colony is divided during a few days only, the swarming impulse is removed, as the bees themselves have destroyed the queen-cells; but in some localities such colonies may make preparations for swarming again soon *after* this manipulation.

Since some years I produce mostly bulk comb honey, which finds a good market here, and pays better than section honey. I prevent swarming in the same way as described for extracted honey. When the supers are given they contain 3 or 4 drawn combs, the balance full sheets of foundation for comb-honey. The supers are accepted by the bees nearly as well as if they were full of drawn combs. I can't see any reason why this plan, with a proper arrangement, could not be used for section honey. Of course, a part of the honey could be in the extracted form. For bulk comb honey we need this to fill up the cans, but, if, in place of the frames with foundation, some sections were given, this extracted honey must be sold separately at a lower price. Experience would teach whether this plan would pay or not. When the storing of honey is well under way in the supers, I generally set a super under those already on the hive and many times in this case I use no drawn combs at all, but frames with foundation only.

Lately, this plan of producing section honey and extracted honey from one and the same colony is recommended in the bee journals as something new.

Another way to manage for comb honey in sections, which will work in some localities, is to use a large but divisible brood chamber; and to prevent swarming as with extracted honey. When the honey-flow commences, a super with sections is set between the two stories of the brood-chamber. The queen and the most of the brood should be in the lower story. If necessary, a queen-excluder can be used between this lower brood-nest and the supers. The upper brood-story is kept on the hive till the brood is hatched and the combs are filled with honey, then these combs can be extracted or used for winter food in the same or another hive.

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A Renewal Offer.

The beginning of the year is always a busy time with publishers. Not one of them that would not give quite a little if all renewals would come in before the end of the year, then all changes could be made, and be out of the way, and the attention turned to something else. As an inducement to subscribers to renew before the end of the year, I have decided to make a generous clubbing offer with the Cosmopolitan magazine.

In my opinion, this magazine stands in the front rank. It is not simply given to light fiction, but contains many serious and really helpful articles. I have read it for years, and, of the magazines, I think it is my favorite. It has now been sold to the Hearst Organization, and will be boomed as it never has been before. It is expected that, within a year, it will outrank every other magazine in this country. "The best, no matter what it costs," is to be the motto of its editors; therefore, it is in the Cosmopolitan that you will find the writers of world-wide reputation. Its fiction will be masterpieces of pen-craft—its whole contents will set the standard for magazine perfection. The price of the Cosmopolitan is $1.00 a year, and the Review is $1.00, but if you will renew your subscription to the Review *before the end of the year*, I will send you the Cosmopolitan for only 60 cts. That is, if you will send your renewal to the Review before the end of the year, $1.60 will pay for the Review and the Cosmopolitan for one year.

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Honey Quotations

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent when a shipment sells for as much as one hundred dollars.

NEW YORK—New crop of comb honey is now arriving in a small way and fancy stock finds ready sale at 14 to 15c per lb., No. 1, at 12c to 13c, and amber at 11c. No buckwheat on the market as yet. Extracted is in good demand, and we quote California at 6 to 7⅓ per lb., according to quality. Southern at from 55 to 65c per gallon. White clover at 6½c to 7c per lb. Beeswax, at 29c.

HILDRETH & SEGELKEN,
82-86 Murray St,
Sept. 7, 1905. New York.

KANSAS CITY—The market is good on comb and white extracted is steady and we look for it to remain so. Beeswax is of slow sale. We quote as follows: Fancy white, per case $3 25; No. 1 white, per case; $3.25; fancy amber, $3 00; No. 1 amber, $3 00; white extracted, 7c; amber 6 to 6½c. Beeswax, 25c.

C. C. CLEMONS & CO.,
Nov. 9, 1905 Kansas City, Mo.

CINCINNATI—Reports from different parts of the country give evidence of an almost total failure in the comb honey crop excepting some points in the North. We are SELLING this Northern comb honey, at from 14 to 16c per lb. by the case.

The demand extracted honey is about equal to the receipts, which are good. We continue to sell amber in barrels at 5¼ to 6c. White clover at 6½ to 7½c For beeswax, we are paying 30c per lb. cash, delivered here.

(We wish to call the attention of the producer to the above quotations on honey. He must not expect to receive these prices on his product. The above are our SELLING prices.)

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BATTERSON & CO.,
Nov. 6 1905. Buffalo. N. Y.

KANSAS CITY—The honey market is firm, stock scarce, and demand good at the following prices: Fancy white, 12½c to 13c; No. 1 white 12½c; No. 1 amber 11c; fancy dark 10c; white, extracted 7c; amber, 6½c; beeswax 25 to 28c.

WALKER-BREWSTER GROCER CO.,
Oct. 10, 1905 423 Walnut St., Kansas City, Mo.

CHICAGO—We quote as follows: Fancy white 15c; No. 1 white, 13 to 14c; fancy amber, 11c to 12c; No. 1 amber, 10 to 11c; fancy dark, 9 to 10c; white extracted, 6½ to 7½c; amber, 6c to 6½c; dark, 5½c; beeswax, 30c.

R. A. BURNETT & CO.,
Nov. 5, 1905. 199 So. Water St.

CHICAGO—We are having an excellent call for new comb honey. First car of California white comb in No 1 sections, arrived yesterday, containing 1760 crates. Sold about half the car today at 13½c to 14c. We quote as follows: Fancy white, 14c; No. 1 white, 13c to 13½c; fancy amber 11½c to 12½c; No. 1 amber, 11c to 12c; white, extracted, 6½ to 7c; amber, 5¾ to 6c.

S. T. FISH & CO.,
189 South Water St.
Sept. 14, 1905. Chicago, Ill

TOLEDO—The maket on comb honey at this writing remains quite firm, with a good demand. The receipts are almost equal to the demand. There is a large crop of No. 1 and No. 2 honey being put upon the market, but no real fancy is being offered

Strictly fancy white comb honey brings 15c, No. 1, 14c No. 2, 13c, with little demand for amber. Extracted white clover in barrels, brings 6c to 6½c, cans 6½c to 7c Amber extracted in barrels is in good demand, at 5c and 5¾c, cans same.

Beeswax 28c and 30c.

GRIGGS BROTHERS,
Nov. 7, '05 Toledo, Ohio,

All You Have To Do

Is to send your name on a postal and get our way down prices on the best dovetailed bee-hive made. The prices on our goods are lower than the lowest. The workmanship is excellent. We make all up-to-date goods. Our Oct. and Nov discount, discounts everything you have seen. Send to-day. We make our own foundation, therefore you get it direct from the factory. Address

The Wood Bee-Hive & Box Co.
Lansing, Mich.

10 WEEKS CENTS

We wish every reader of the Bee-Keepers' Review to become acquainted with *Gleanings in Bee Culture.* We extend a cordial invitation in our offer to send you the paper ten weeks for ten cents.

There is no bee paper in the world like Gleanings. Its aim is to meet the needs of every bee-keeper everywhere and it needs it Whether you own one colony or a thousand or are merely interested you cannot afford to miss a single number. Gleanings is progressive. Every number is an improvement over the last.

CONTRIBUTORS. It is useles to state tha *Gleanings* excels in this point. A regular department is edited by Dr. C. C. Miller, G. M. Doolittle, Prof. A. J. Cook, J. A. Green and Louis Scholl. These names speak for themselves for they are the best writers of the day. Every issue contains articles from the pens of the best bee-keepers all over the land. A list of them would be the catalog of the most successful bee-keepers the world over. We will soon begin a series of remarkable articles by E W. Alexander. We are safe in saying a higher price was never paid for an article of this class as we paid for a single one of this series. Every one of them will be worth hundreds of dollars to bee-keepers.

HALF-TONE ILLUSTRATIONS. During the past summer we have had a special artist to take photographs for us. He has traveled on our account alone the past summer over 400 miles and we can promise some very fine pictures. Many of the Second Prize Photo Contest, American and Foreign will appear soon. Our engravings are made by the very finest engravers in the United States. Just this wealth of illustration doubles the value of the paper.

DECEMBER 15TH ISSUE: We are pleased to announce that extensive plans are now under way for a Special Christmas Issue of Gleanings, It is planned that this issue shall far exceed in its wealth of contributed articles, its half-tones and its cover design anything that heretofore has been attempted in bee-keeping literature. The cover is to be designed and printed by one of the best cover establishments in the United States The design is something unique and beautiful indeed. This issue will contain nearly 100 pages and 40,000 copies will be printed, making a bee-keepers magazine tha' compares favorably with any magazine of the present day.

SUBSCRIBE. When you have read this notice, take up your pen and tell us to send you ***Gleanings ten weeks*** and enclose ***ten cents,*** in coin or stamps. Don't put it off. The magnificent Christmas Number alone will be worth 25c to any bee-keeper—we don't promise this number to any but subscribers—Don't put this matter off for you will never be able to spend 10c to better advantage.

THE A. I. ROOT CO., MEDINA, OHIO

DECEMBER, 1905.



Flint, Michigan, $1.00 a Year

Bee-Keepers' Review

PUBLISHED MONTHLY

W. Z. HUTCHINSON, Editor and Publisher

Entered as second-class matter at the Flint Postoffice Feb. 2, 1888. Serial number, 215

Terms—$1.00 a year to subscribers in the United States, Canada, Cuba and Mexico. To all other countries postage is 24 cts. a year, extra.

Discontinuances—The Review is sent until orders are received tor its discontinuance. Notice is sent at the expiration of a subscription, further notices being sent if the first is not heed ed. Any subscriber wishing the Review discontinued, will please send a postal at once upon receipt of the first notice; otherwise it will be assumed that he wishes the Review continued, and will pay for it soon. Any one who prefers to have the Review stopped at the expiration of the time paid for, will please say so when subscribing, and the request will be complied with.

Flint, Michigan, Dec. 15, 1905

Advertising Rates.

All advertisements will be inserted at a rate of 15 cents per line, Nonpareil space, each insertion: 12 lines of Nonpareil space make 1 inch. Discounts will be given as follows:

On 10 lines and upwards, 3 times, 5 per cent; 6 times, 15 per cent; 9 times, 25 per cent; 12 times, 35 per cent.

On 20 lines and upwards, 3 times, 10 per cent; 6 times, 20 per cent; 9 times, 30 per cent; 15 times, 40 per cent.

On 30 lines and upwards, 3 times, 20 per cent; 6 times, 30 per cent; 9 times, 40 per cent; 12 times 50 per cent.

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American Bee Journal, (new)	(1 00)	1.75
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Country Gentleman	(2.50)	3.15
Harper's Magazine	(4.00)	4.10
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National Bee-Keepers' Association.

Objects of the Association.

To promote and protect the interests of its members.

To prevent the adulteration of honey.

Annual Membership $1.00.

Send dues to Treasurer.

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TYPE WRITTEN

The names of my customers, and of those asking for sample copies, have been saved and written in a book. There are several thousand all arranged in alphabetically (in the largest States) and, though this list has been secured at an expense of hundreds of dollars, I would furnish it to advertisers or others at $2.00 per thousand names. The former price was $2.50 per 1000, but I now have a type writer, and by using the manifold process, I can furnish them at $2.00. A manufacturer who wishes for a list of the names of bee-keepers in his own State only, or possibly in the adjoining States, can be accommodated. Here is a list of the States and the number of names in each State.

Arizona	46	Ky.....	182	N. C.....	6
Ark....	82	Kans..	350	New Mex.	5
Ala.. .	80	La.....	38	Oregon..	10
Calif...	378	Mo.....	500	Ohio...	130
Colo...	228	Minn..	334	Penn....	91
Canada	1200	Mich...	1770	R. I.....	4
Conn..	162	Mass...	275	S. C.....	4
Dak...	25	Md.....	94	Tenn....	17
Del....	18	Maine	270	Tex.....	27
Fla....	100	Miss...	70	Utah.....	6
Ga.....	90	N. Y...	1700	Vt.....	20
Ind....	744	Neb.....	345	Va.....	18
Ills....	1375	N. J. ..	130	W. Va....	17
Iowa..	800	N. H. .	158	Wash....	12
				Wis.....	65

W. Z. HUTCHINSON, Flint, Mich

Prompt Shipments,

Are what you want and we can make them. Send in your orders and be convinced that we can do it. WISCONSIN BASSWOOD FOR SECTIONS. DOVE-TAILED HIVES made by ourselves now. A full line of supplies for bee-keeping on hand.

Marshfield Mfg. Co.

Marshfield, Wis.

No Fish-Bone

Is apparent in combhoney when the Van Deusen, flat-bottom foundation is used. This style of foundation allows the making of a more uniform article, having a *very thin* base, with the surplus wax in the side-walls, where it can be utilized by the bees. Then the bees, in changing the base of the cells to the natural shape, work over the wax to a certain extent; and the result is a comb that can scarcely be distinguished from that built wholly by the bees. Being so thin, one pound will fill a large number of sections.

All the Trouble of wiring brood frames can be avoided by using the Van Deusen *wired*.

Send for circular; price list, and samples of foundation.

J. VAN DEUSEN,
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Now is the time to send in your order for goods for use next season and for all orders where cash accompanies, we allow the the following discounts:

Before	Oct. 1	deduct	10	per cent.
"	Nov. 1	"	9	"
"	Dec. 1	"	8	"
"	Jan. 1	"	7	"
"	Feb. 1	"	6	"
"	Mar. 1	"	4	"
"	Apr. 1	"	2	"

Freight rates from Toledo are the lowest. Can take honey and beeswax in exchange for supplies if you desire. Send for free illustrated catalogue. It describes and illustrates everything for both the Poultry and Bee-Keepers.

GRIGGS BROS.

521 Griggs Block

TOLEDO, - - OHIO.

Lowest Prices.

BIG DISCOUNT FOR EARLY ORDERS.

On cash orders			
Before November	19	per	cent.
" December	18	"	"
" January	17	"	"
" February	16	"	"
" March	14	"	"
" April	12	"	"

Bee Supplies of all Kinds.

Established nearly 25 years.

We have published the American Bee Keeper for 15 years, (monthly 50c a year). The largest and best illustrated magazine of its kind for the price published. Edited by two of the most experienced bee-keepers in America. Sample copy free. Our large, illustrated price list of supplies free on application.

The W. T. Falconer Mfg. Company,
JAMESTOWN, N. Y.

Discounts for Early Orders

The following large discounts are offered for early orders accompanied by cash. This applies to all goods excepting honey packages for current use.
For cash orders before—

Jan. 1st, 7 per cent.
Feb. 1st, 6 per cent. Mar. 1st, 4 per cent.
April 1st, 2 per cent.

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A. G. Woodman, Grand Rapids, Mich.
York Honey & Bee Supply Co., Chicago, Ill., 141 & 143 Ontario St.
Louis Hansen's Sons, Davenport, Iowa.
Adam A. Clarke, Le Mars, Iowa.
Southwestern Bee Co., San Antonio, Texas., 438, Houston St,
Robert Halley, Montrose, Colo.
Cleaver & Greene, Troy, Pa,
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Fruit Growers' Ass'n., Grand Junction, Colo.
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Bee-Keepers' Supplies. **G. B. LEWIS CO.,** **Watertown, Wis., U. S. A.**

Make Your Own Hives.

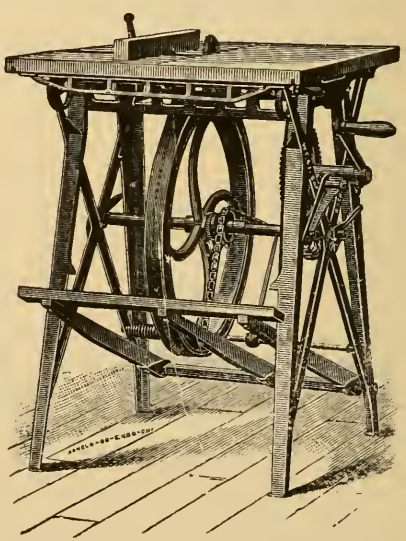
Bee-Keepers

Will save money by using our Foot Power Saw in making their hives, sections and boxes.

Machines on trial. Send for Catalogue.

W. F. & JNO. BARNES CO.,
384 Ruby St.,
Rockford, Ills.

4 04-19t



7% Discount

We will allow you the above discount on all orders accompnied by cash during December. Send for Catalogue.

Page & Lyon Mfg. Co., New London, Wis.

CO = OPERATION

Means---You Work for Me, and I Work for You for Mutual Benefit.

A well-known manufacturer wishes to cash $2,000 worth of goods during

DECEMBER.

He has made me the lowest prices I have been able to secure in years, viz: The 8-fr. Dove. hive, 1½-st. at 90 cents each—any frame, any cover, etc. 10-fr., $1.00.

No. 1 White Basswood Standard Size Sections a $3.15 per 1000. No. 2, $2.65.

I will take you Mr. Bee-Keeper, into partnership. There are three conditions, viz:

1st. Cash to reach me not later than Dec. 29, 1905.

2nd. You subscribe for Rural Bee-Keeper, one year, $1.00,

3rd. You pay me a comission for my services, viz.

10 percent. on all orders for $50 or less.
8 percent. " " $50 to $100.
7 percent. " " 100 to 200.
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W. H. Putnam, River Falls, Wis.

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a property or a business of any kind anywhere in the United States write me a postal card for my Free Catalogue. I have bargains everywhere and can save you money. Don't wait. Write today.

A. P. Tone Wilson, REAL ESTATE SPECIALIST
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Now is the Time to Order

Your Bee-Hives, Sections, Shipping-Cases, Berry Boxes and Crates for the doming season. By sending a list of goods wanted, we can save you money.

SHEBOYGAN FRUIT BOX CO.,
9-05-4t Sheboygan, Wis.

LOTS OF GOOD QUEENS.

Untested, $1.00 each: six for $5.00, or $9.00 per dozen. Tested, $1.50 each: select, $2.50. Bees for sale in car lots for spring delivery. Correspondence solicited. Agents for Dittmer's foundation for this State. Get prices.

THE BEE and HONEY COMPANY,
WILL ATCHLEY, Mgr. **BEEVILLE, BEE CO., TEX.**

4 Car Loads

of honey for sale, For particulars address B. F. Lawless, 822 S. Church St., Visalia, Calif.

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"DADANT'S FOUNDATION"

IT EXCELS.

We Guarantee Satisfaction.

BEE-SUPPLIES

OF ALL KINDS.

Beeswax Wanted at all times.

A. G. Woodman, Grand Rapids,
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FANCY WHITE EXTRACTED HONEY

CRATES 2-60 LB. CANS; 8c
TWO OR MORE CRATES; 7¼
LARGER LOTS; WRITE FOR SPECIAL PRICES. ALL F. O. B. CINCINNATI. CASH WITH ORDER. SAMPLES 10c. TO PAY POSTAGE.

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No. 51 WALNUT STREET, CINCINNATI, OHIO.
SEND FOR CATALOG OF BEE SUPPLIES WITH SPECIAL DISCOUNT.



Building Castles in the Air.

Review Apiary—104 Colonies.

The Bee-Keepers' Review.

A MONTHLY JOURNAL

Devoted to the Interests of Honey Producers.

$1.00 A YEAR.

W. Z. HUTCHINSON, Editor and Proprietor.

VOL. XVIII. FLINT, MICHIGAN, DEC. 15, 1905. NO. 12

Past, Present and Future of the Review-Apiary.

W. Z. HUTCHINSON.

THE interest shown in the Review-apiary is just a wee bit flattering. Quite a number have written and inquired how the increase was made. Others have wished to know if any feeding was done. Still others would like to know if any surplus was secured. Another says that "most of bee-keepers try to keep down increase, but you seem to work in the opposite direction, and we would like to know why and how you did it."

WHY I HAVE AGAIN TAKEN UP BEE-KEEPING.

In the first place, let me tell *why* I have gone again into bee-keeping. It was not that I had not sufficient work. There is the getting out of the Review, which is really more than enough to keep one man busy. There is the looking after foul brood. The work as Secretary of the National Association. Then, during the past year I have written and published the new edition of Advanced Bee Culture, which will be in the hands of its readers now in a few days. On top of all this I started in to build up on apiary. My love for the work was one very strong motive. After being without bees for three or four years, the longing for them became so great as to be almost irresistible. Another point is this: I have for years urged bee-keepers to keep more bees; to seek a good location and establish out-apiaries, and make a *business* of their business. I have urged that it is an easy matter if the bee-keeper will only turn his mind and energies in that direction, and now I have started in to "show them how to do it," or else fail in the attempt, in which case my readers will have the benefit of the performance. I have said repeatedly, that a bee-keeper in an ordinary location could take 15 or 20 colonies of bees and build them up into a good sized apiary in a single season. For this reason I have said that there is little excuse in saying that you would keep more bees if you only had them. You can get them in a very short time if you set out for it in the right way; and one object

in thus building up 20 colonies into 104, was to show my friends that all this was not idle talk. I well-know that much greater increase has been made. I once made increase at twice this ratio, but that was when I had a bountiful flow from buckwheat. My increase this year was made from clover alone. If a good flow from buckwheat had followed, or if there had been a fall flow from any source, or if I had resorted to feeding, it would have been an easy matter to have simply doubled the 104 colonies.

A SAFE, SURE METHOD OF INCREASE.

I think I have before described the method of increase, but I will go over it again briefly. As soon as some of the colonies were full of bees, brood and honey, and could easily spare two combs of bees and brood from each, that many were removed from each colony until enough were secured to fill a hive, which was placed upon a new stand and given a laying queen bought from a Southern feeder. By the way, most of the queens were not released until a day or two after the formation of the colony, when most of the old bees had returned to their old homes, leaving mostly young bees, and I believe I lost only three queens out of about 90 that were introduced. Of course, the old queens had to be hunted up before removing the combs of brood and adhering bees, and this is about the only objection that I have found to this method of making increase. With pure Italians of a peaceable strain, this is not a serious objection in a small apiary. It consumes time, however, and, when doing things on a large scale, a man would probably wish for some quicker method. Another year I think I shall try the plan of shaking off the bees from the combs of bees removed (then there would be no time wasted in looking for queens) and when I had a hive full of combs of brood I would set it over a populous colony, with a queen excluder between it and the lower hive. In a few hours the combs of brood would be covered with young bees, when it could be given a queen and a new stand. When combs of brood were removed, their places were filled with full sheets of wired foundation.

I think nearly as good results might have been secured if the queens had been reared instead of being purchased, but I had too many irons in the fire to attempt that. A man who was simply running an apiary, and trying to build up another apiary, could easily rear the queens for increase. Bees that started in to swarm would easily furnish the cells. When nearly ready to hatch they could be given to newly made colonies, or they might be first given to nuclei, and, when the queens are laying, the nuclei built up into full colonies.

In the height of the season, sometimes as many as four combs of bees and brood were taken from one colony. Of course, judgment must be used in this matter. The principle is to take combs of bees and brood from full colonies that are abundantly able to spare them, and make up full colonies with these combs of bees and brood, giving them a queen. In a very few days such a colony is the equal of any in the yard.

I did no feeding except a little between fruit bloom and the opening of white clover—perhaps 50 pounds of sugar was fed. No surplus was secured, but the colonies are abundantly supplied with winter stores of clover honey.

A SIMPLE, YET DESIRABLE, ENTRANCE-STOPPER.

The apiary was located some four or five blocks from my home, as there was not room near the latter, hence the bees had to be brought home in order to put them in the cellar under the house. In bringing them home the covers and bottom boards were fastened on with what are called crate-staples—double

pointed tacks in which the points are about an inch and a half apart. One point is driven into the bottom board, at one corner of the hive, and the other point into the side of the hive. Each corner of the hive, or bottom board, is served the same. The staples at the front end of the hive are made to slant in one direction, and those at the back end in the opposite direction, hence they act as braces, acting one against the other, and prevent the bottom board from slipping in either direction. Before the cover was fastened down, a piece of rag carpet was spread over the frames. The entrance was closed with wire cloth, and that was all of the ventilation that was given. By the way, it may be worth while to describe how this wire cloth entrance-stopper was made and used, as it was very easily and quickly put in place, or removed. Cut a piece of wire cloth two inches wide, and as long as the entrance is wide. Fold, or bend, it along the middle of the long way until, in looking at the end, it has the shape of the letter "V," or, possibly, the letter "U." Introduce the folded edge into the entrance, and crowd the wire cloth back into the entrance until the outer edges are nearly or quite even, or "flush," with the front of the hive. The elasticity, or "spring," of the wire keeps it in place, yet it can be very easily and quickly pulled out with the points of the finger and thumb. This method of closing the entrance might not be sufficiently secure for shipping bees long distances by express, but for short distances, where under the supervision of the owner, it is all right.

ARRANGING THE HIVES IN THE CELLAR.

After the bees were hauled home they were set down on the ground near the entrance to the cellar, the crate staples removed by the use of a screw driver, the fronts of the hives raised a little by putting a piece of section under the edge of each hive. This was done that I might be sure that the hive was entirely loosened from the bottom board, so that it would not come loose with a "snap" when the hive was picked up to carry it into the cellar. Not only this, but the cool air would induce the bees to crawl up among the combs, and part of the cluster would not be left on the bottom board when the hive was picked up to carry it into the cellar. The hives were left standing thus over night that the bees might have time to "cool down" after being moved. When they were carried into the cellar, the covers were removed, and the hives stacked up by placing a two-inch, square strip of wood at each end of a hive, between it and the hive above. This gives a two-inch space below each hive, and there is a piece of rag carpet over each brood nest. The cellar door has stood open most of the time since I put the bees in. When I close the entrance to the cellar the temperature is about 50. The bees are closely clustered and very quiet.

"PIN-HOLE" PHOTOGRAPHY."

The reason that I had them on such a small piece of ground this year, was because I had bargained for this space before I expected to have so many bees. Later I bought more bees, but I managed to crowd the increase upon this space. Another year I shall have a location near where the bees were kept last year, but where there will be an abundance of room. The ground is all laid out now, and the blocks placed to set the hives upon as soon as the weather is suitable in the spring. I am going to give you a view of this ground upon which the apiary is to stand another year. I am doing this not because I consider it picturesque, or that there is anything particularly noteworthy about it, but because I have been studying up what is called "pin-hole" photography, and this cut is made from the first photograph that I made with that process. No lens is used, simply a *pin-hole*, not larger than a fine cambric needle. Of course, a long

exposure must be given. In this view given in the Review, the exposure was 20 minutes with bright sunshine. Pin-hole photographs do not show that sharp definition that may be secured with a lens; there is a lack of detail, a softness, that reminds one of a painting instead of a photograph. It is not necessary to have a camera (although it is a convenience) in taking pin hole photographs. Simply a light-tight box, with a hole bored in one end, the hole covered with a thin piece of brass or copper that has been punctured with the point of a needle, and the "burr" from the pin-hole to the plate. For pictorial landscape work, where an abundance of time can be given, pin-hole photography has much to commend it, but for general work, or where sharpness and detail are desirable, the lens is ahead.

ARRANGEMENT OF HIVES.

If you will look at the prospective apiary again, you will see that it is laid out in such a manner that there will be really four small apiaries of 28 colonies each, There are several reasons for this: Perhaps three of



Ground Staked Out for the Review-Apiary Next Spring.
Made from a Pin-Hole Photograph.

edge of the puncture polished down or rubbed away on a whetstone. At the back of the box must be some arrangement for holding the plates. Perhaps it might be advisable to use "boughten" plate-holders. One advantage of the pin-hole arrangement is that it is always in focus, no matter how far you are from the object, nor how far it is

these apiaries will have their hives protected in the spring with tarred paper, as explained in the November Review, and close watch will be kept as to the effect. Perhaps two of them, one that is protected, and one that is not protected, will be fed between fruit bloom and clover; and so on, one or two of these little apiaries will be given

some treatment different from the others, and results will be noted and reported. Another thing, in the making up of new colonies, in which queens must be fertilized, there will be more opportunity to give such hives distinguishing locations, than would be the case were the whole apiary arranged in one solid square when the bees were first taken from the cellar. The hives will be arranged in straight rows, each way, the distance between being about 30 inches. This will give an excellent opportunity for the running of the lawn mower, both ways, the same as we cultivate corn. Salt will be used to kill the grass for five or six inches around each hive.

HO! FOR OUT-APIARIES IN NORTHERN MICHIGAN.

I have mentioned some of the plans of the future, but let me go still further. I have already shown how easily an apiary may be built up from a few colonies; now I wish to go on and show how *apiaries* may be increased, and a paying business built up on a large scale. In the spring I may sell a few colonies, but not more than 15 or 20. Then, after fruit bloom, I expect to ship most of the remaining strong colonies to the raspberry region of Northern Michigan and establish an apiary that shall be a starting point for a series of out-apiaries. I expect to produce extracted honey, and manage the apiaries on something approaching the Townsend plan, viz., that of visiting them only at stated intervals during the spring, summer and fall. I am going to give, in advance, my plans, as much in detail as space will permit, and then ask for criticisms. As the work progresses, results will be reported, mistakes being given as freely as the successes.

TEN-FRAME HIVES.

Ten-frame Langstroth hives will be used. The preference is given to this size rather than the eight-frame, because in handling bees at "long range," so to speak, where they may be left for weeks with no attention, a colony in a large hive will be more likely to be able to take care of itself. Colonies in hives of this size will be able to better bear neglect. It is likely that swarming will be more easily controlled.

PREPARING FULL COLONIES FOR SHIPMENT.

After fruit bloom, and before the hot weather comes on, perhaps 50 of the strongest colonies will be selected and shipped to the raspberry region. Two or three days before they are to be shipped they will be moved out of the apiary a short distance, and the flying or field-bees allowed to return and join the weaker colonies that remain in the apiary. This course will be taken for two reasons. The full colonies that are to be shipped will stand the confinement and shipment much better for the removal of these old bees. It is these old bees that worry and make a fuss and die in the hive. The young bees, that have never flown, bear the confinement exceedingly well. The old bees that return and join the weaker colonies will boom them, and they will soon be in a condition for artificial increase, to which purpose they will be devoted. If 20 colonies are left, and they are thus re-inforced, it is quite likely that I can, by another fall, increase them to 100 colonies—judging by the results of the past season.

The full colonies will each have an empty upper story placed above, the top of the upper story being covered with wire cloth. The bottom boards will be fastened on, and the two stories fastened together by the liberal use of crate-staples. At least two upper stories of frames supplied with full sheets of wired foundation will be provided for each colony. All these will be loaded into a freight car, and I shall

accompany them, in person, to their destination.

SECURING SURPLUS COMBS AND HONEY.

As soon as the honey flow opens in earnest, and the hives are full of bees, brood and honey, I expect to put an upper story on each colony, raising up half the combs from below, and alternating the combs in both stories with full sheets of foundation. You must remember that I have no surplus of drawn combs, and that one of the steps for another year will be that of securing the building of surplus combs. When the sheets of foundation are drawn out and filled with honey and brood, and the colonies and honey flow are in a condition to justify the addition of another story, it will be added, some of the combs being raised from lower stories to alternate with the foundation. This plan will be followed until the season is over, let the added upper stories be one or half a dozen. When the season is over, the surplus honey will be extracted, leaving each colony one body and one set of 10 combs.

Until I am satisfied that an apiary will remain permanently in some particular location, it is likely that the bees will be wintered in clamps. When I decide upon a permanent location, a cellar and honey house will be built. Previous to that, it is quite likely that I shall use a portable honey-house, one that can be taken apart and moved.

ONLY FIVE VISITS A YEAR !

I also have plans as to how I shall make increase and establish other apiaries after the first one is started, but this article is already stringing out to an unpardonable length, so I will close by saying that I wish to develop a system whereby I can manage apiaries for extracted honey by visiting them from four to six times in the course of a year. Go in the spring and dig them out of the clamps, or take them out of the cellar, and protect them with tarred paper (if it proves advantageous); go at the beginning of the main flow and put on two upper stories of empty combs (shall I use a queen excluder ?) go when the flow has been on two or three weeks. This visit might not be necessary were it not that some colonies will far out-strip others, and may need more surplus room, while others have not made much headway in the supers. This visit will be for the sake of equalizing matters; giving more room where needed, and, possibly, reducing the room on others. At this visit it is quite likely that the increase will be made, queens that have been reared in the home-apiary being carried to give the new colonies.

The next visit will be after the season is over, and will be made to extract the honey. The fifth and last visit will be to bury the bees or put them in the cellar. Actual practice may change some of these plans, but this is as nearly as I can outline them in advance. Now then, I wish the help of my readers. Remember, if you see that I am making a mistake somewhere, it is not going to hurt me a particle to have it pointed out. That is what I *desire*, above all things. In return I will tell you, as the plan unfolds, exactly how it turns out, even if, in the telling, I am forced to acknowledge that some of my cherished schemes have come to naught.

FLINT, Mich., Nov. 24, 1905.

Managing Out-Apiaries in the New York Buckwheat Fields.

N. L. STEVENS.

IN considering the question as to whether one shall branch out in bee-keeping, and establish out apiaries, there are several imporant factors to be considered which are all more or less contributory to one's success or failure.

IMPORTANCE OF VARIOUS FACTORS IN MANAGING OUT-APIARIES.

Named in the order of their importance they are, perhaps, the man, the location, the methods employed, the necessary capital, and the market. Given the first four, and failure would be quite possible without a good market; and herein I think lies the danger of increasing the business too far; for, as all markets are necessarily regulated by supply and demand, I think there is danger, if a good season were general throughout the whole country, of a big slump in prices; which might mean disaster to one who had gone too far beyond his means; and make the business unprofitable to those of more ample resources. In this connection it might be well to say, that it behooves us all to develop our home markets, disposing of as much of our product in this way as possible, and thus keeping a share of it from competing in the general market.

It will not pay to start an out-apiary unless one has more bees than can profitably be kept in the home-apiary, as they can be cared for much more cheaply at home.

CONDITIONS UNDER WHICH LARGE NUMBERS OF BEES MAY BE KEPT IN ONE APIARY.

Of course, each person must determine for himself the number of colonies which his location will profitably support, as that is a question which depends upon the honey resources and management.

I am strongly of the opinion that in localities where the resources from which the main crop is secured are almost unlimited, a large number of colonies could be profitably kept in one yard, *providing* they were fed a little each day during the period when no honey was coming in from the field, to keep the colonies in proper condition to take advantage of the flow when it did come.

POINTS TO BE CONSIDERED IN SELECTING THE SITE FOR AN OUT-APIARY.

Having determined to start an out-apiary, there are several things to be considered in making the selection of a site. It should be favorably located in relation to the honey producing flora, so situated as to be protected from the prevailing winds, and not contiguous to cultivated fields, at least, in this buckwheat country, as the bees in large apiaries become very cross during the period while buckwheat is in bloom, and sometimes prove an annoyance in working fields some distance from the apiary. I think three miles between apiaries practically sufficient. I have a house and tools at each apiary and consider them indispensible. I want the building bee-tight with an escape in the window to let out stragglers.

I constructed one of the take-down type, the past season, 9x12x7 ft. high at one end and 9 ft. at the other, built of matched pine at a cost of about $30 for material.

Compensation for the use of the ground occupied will have to be fixed somewhat according to the ideas of the owner. I find that, as a rule, if they will allow the bees on the place at all, they are not usually exhorbitant in their charges, and honey for family use forms a large part of the consideration.

APIARIST BETTER MANAGE OUT-APIARIES HIMSELF IF COMPETENT HELP CAN BE SECURED.

The help-problem is getting to be one of serious importance in all rural industries. Having had several years experience in managing hundreds of colonies myself and also having several yards let on shares, I think I would prefer running the bees myself, providing competent and trustworthy help can be secured at reasonable wages.

I have bought very few hives from the factory, as I think I can make them cheaper.

HOW TO MANAGE THE SWARMING PROBLEM.

The swarming problem is not so difficult if one has got sufficient time at his disposal to attend to it. By drawing brood from those preparing to swarm, and forming nuclei, or building up the weaker ones according to the requirements of the apiary, it can be kept pretty well under control.

I think the raising of two or three frames of sealed brood into the extracting super, and filling their places with foundation or drawn combs early in the season, practiced on the stronger colonies, will give the queen the necessary room and tend to diminish swarming.

My increase is secured by forming nuclei as early in the season as we can secure natural cells; and I consider a colony which has built several cells preparatory to swarming, the latter part of May or first of June, as a prize to be used as a base in forming these nuclei.

As our main honey flow comes from buckwheat during August, it is possible, if formed early, to get a 3-frame nucleus built up into a good colony in time to catch the flow.

I winter bees packed on summer stands, except in the home yard, as I would consider it too much trouble to haul them back and forth to a winter repository.

MORAVIA, N. Y., Nov. 19, 1904.

An Out-Apiary Pays for Itself in One Season.

J. E. CRANE.

[The following is part of a private letter, but it contains so many good ideas that I hope friend Crane will pardon me for giving it this publicity. Ed. Review.]

I OFTEN feel, after reading the Review, as I have this afternoon, like sitting down and having a chat with you about bees and *beesness*.

I have long wanted to tell you how much I have enjoyed the Review, especially its editorials. The masterful way in which you have conducted it, and the sweet, christian spirit you have shown, with charity for all, and no unkind word for any one, has charmed me, and been "sweeter than robins' songs in the rain."

I have been interested in your advice about keeping more bees, but thought the advice did not apply to *me*, as I am getting along in years, or the years are getting into me, but, last spring, my son, now twenty-two past, thought we might spread ourselves a little, and so we went some ten miles away, in a good range, and bought "a yard" consisting of 100 colonies of bees, 125 empty hives, two buildings, 14x20, several thousand sections, clamps, etc., including all the fixtures necessary for running a yard of bees, as well as all the useless clap trap accumulations of years. Well, the season has been a fair one, and we have brought home from that yard about 9,000 lbs. of honey; much more than enough to pay for it. This with five old yards, has kept us two very busy; but we were able to do all the work until the close of the honey season, when my son went on the road selling honey, and I engaged another man to assist me in putting honey up for filling orders. Oh! I guess I am a little fast, we *did* hire three days' work during the busiest of the season. So you see that your advice to keep more bees, has brought *us* no harm.

THE GREAT NEED FOR ADVERTISING HONEY.

I feel that we must increase the use of honey by advertising, and writing, and in every possible way, until all came to know its value as the most delicious and healthful of foods.

My neighbor, Ex-Gov. Stewart, has been abroad the past summer, and he tells me that in all the hotels in Switzerland he found honey on the the tables. We have begun selling to hotels here, and find the demand increasing. I think it would be well if all bee keepers, when away from home, and stopping at hotels or restaurants, would ask for honey.

Wish you could have been with us in some of our rides this fall, to our out-yards, with the forests in all their autumnal glory, and the beautiful green mountains in full view. I am sure you would have enjoyed it as I have done.

WHAT WILL HAPPEN IF EVERYBODY "KEEPS MORE BEES?"

Aren't you afraid if every body keeps more bees that our markets will be overstocked?

Those were sensible articles in last Gleanings about advertising

But I am afraid I shall weary you with my rambling pen, and so will close.

MIDDLEBURY, Vt., Oct. 28, 1905.

[As to my views regarding the difficulties that may arise from advising bee-keepers to keep more bees, see my reply to Bro. Lathrop on Page 371.—Ed. Review.]

Editorial

Bleaching of wax has been more successfully accomplished by Prof. Shutt, of the Ontario Agricultural College at Ottawa, Canada, by the use of one per cent. of nitric acid, than by any other chemical. One per cent. is sufficient, while too large a portion of acid destroys or injures the wax.

H. G. Sibbald was re-elected President of the Ontario Bee-Keepers' Association; R. H. Smith, 1st Vice President; and F. J. Miller, 2nd Vice President. Next meeting will be held in Toronto during the fruit, flower and vegetable show, which assures reduced rates.

Mary had a swarm of bees,
And they, to save their lives,
Must go wherever Mary went—
'Cause Mary had the hives.

Barrels, when filled with honey, should have the hoops driven tight, and tacked fast; then a barrel should not rest upon its side when being shipped, or carried in a wagon, as the whole weight then rests upon a single point. Set the barrel on end.

Michigan Bee-Keepers will hold their annnal convention Feb. 1st and 2nd at the Blackman Hotel in Jackson. This hotel is a first class temperance house, and a room for holding the meeting will be furnished free. Lodging 50 cts., and meals 50 cts., each. Further particulars will be given soon.

Original, or new methods, are sometimes an improvement upon old ones, and Mr. J. B. Hall said, at the late Ontario convention, that he would set an inexperienced man at work doing a piece of work, if he wanted to get an original way of doing it—he would be almost certain to do this in an original manner. The experienced man is in a rut, and can't see out of it.

Three Inspectors of Apiaries for Canada.

Ontario bee-keepers will ask their legislature to pass a law dividing the Province into three districts, with an Inspector of Apiaries for each district; these Inspectors to report to the Ontario Bee-Keepers' Association the names and addresses of the owners of apiaries inspected, number of diseased colonies found, treated, or burned.

My Bees have now, Dec. 9, been in the cellar a month, and are very quiet; the great, golden-brown clusters hanging down below the frames in that delightful way so cheering to the heart of the bee-keeper. The mercury stands at 50 degrees, which might be considered rather high, but it must be remembered that both the covers and the bottom-boards have been removed, and the frames have been covered only with a piece of rag carpet. I have just finished sweeping up the bees on the floor for the first time, and there was not over a quart from the whole 100 colonies.

Results of the Election.

Mr. Leonard S. Griggs and myself counted the votes cast for the election of officers for the National for 1906, and the results are as follows:

Whole number of votes cast for President 876, of which 724 are for C. P. Dadant, 149 for O. L. Hershiser, one for H. G. Surface, one for W. Z. Hutchinson, and one for Jas. U. Harris.

Whole number of votes cast for Vice President 810, of which Geo. E. Hilton received 685, C. P. Dadant 91, W. F. Marks 8, J. A. Green 6, the rest scattering.

Whole number of votes cast for Secretary 889, of which W. Z. Hutchinson received 763. J. A. Green 111, the rest scattering.

Whole number of votes cast for General Manager 878, of which N. E France received 852, Wm. Rohrig 23, the rest scattering.

Whole number of votes cast for Directors 2,560, of which F. Wilcox received 491, C. A. Hatch 490, E. R. Root 466, E. W. Alexander 444, M. H. Mendelson 333, Walter S. Pouder 288, the rest scattering.

The Secret of selling a large crop of honey is looked upon by some as really a *secret*. Here is the way Mr. J. T. Hairston, of Salina, Ind. Ter., talks about it in a letter to me. He says: "I notice in the October Review that Mr. E. D. Townsend has sold his 20,000 pounds of honey at 7½ cts. I can beat him badly. My 1903 crop was 14,000 pounds; my 1904 crop was 15,000 pounds, and it was all sold at an

average of a shilling a pound for extracted, and twenty cents for comb. My honey is all sold, and I could sell 20,000 pounds more this winter, if I had the kind that I produce. I damaged my honey trade twice in buying honey. One lot was a fine grade of alfalfa, but there were flies in some of the cans, and I had to strain all of it. One lot was from southern Texas, and half of it was not fit to eat. There is lots of comb honey shipped in here on which the grocers lose money.

I sell, at the prices named, direct to the retailer, and what I have done, anybody can do, if he only knew my *secret*. I would like to tell the readers of the Review that secret if I thought they would profit by it. I'm afraid they won't, at least a great many won't, so what's the use. I will say, however, that there is really no great secret about it—good honey, honesty and push—that's all there is to it.

Program for the National Convention.

The National Bee-Keepers' Association will hold its annual convention Dec. 19th, 20th and 21st in Brunt Hall, in the Bush Temple of Music, corner of Clark St., and Chicago Ave., entrance on Clark St., Chicago, Ills. This hall is only five minutes walk north, on Clark St., from the Revere House, corner of Clark and Michigan Sts., which will be headquarters for the members of the convention. Rates at the hotel are 75 cts for a room alone, or 50 cts each, where two occupy the same room. Meals are extra, or they may be secured at nearby restaurants. The program is as follows:—

FIRST DAY.

Evening Session—7:30 p. m.

Wax-Rendering Methods and Their Faults.....
O. L. Hershiser, Buffalo, N. Y.
Can the Tariff on Comb Honey be Tinkered to the Advantage of the U. S. Bee-Keeper?.....
Hildreth & Segelken, New York

SECOND DAY.

Morning Session—9:30 a. m.

How Many Bees Shall a Man Keep?....
E. D. Townsend, Remus, Mich.
Short Cuts in Bee-Keeping.....
M. A. Gill, Longmont, Colo.
Producing Both Comb and Extracted Honey on the Same Colony .....
Jas. A. Green, Grand Junction, Colo.
Question Box.....

Afternoon Session—2:00 p. m.

The Control of Increase.....
L. Stachelhausen, Converse, Texas.
Migratory Bee-Keeping.....
R. F. Holtermann, Brantford, Canada.
The Dietic and Hygenic Value of Honey, ...
Dr. Eaton, Chicago, Ills.
Question Box.....

Evening Session—7:30 p. m.

Contagious Diseases Among Bees and How to Distinguish Them.....
Dr. Wm. R. Howard, Ft. Worth, Texas
Experimental Apiculture.....
Dr. E. F. Philips, Washington, D. C.

THIRD DAY.

Morning Session—9:30 a. m.

The Honey Producers' League—Can it Help Bee-Keepers?.....
R. L. Taylor, Lapeer, Mich.
The Business End of Bee-Keeping.....
N. E. France, Platteville, Wis.
Making Honey Vinegar.....
H. M. Arnd, Chicago, Ill.
Question Box.....

Afternoon Session—2:00 p. m.

In What Way Can Bee-Keepers Secure Their Supplies at Lower Prices?.....
W. H. Putnam, River Falls, Wis.
How the Producer and Dealer May Advance Their Mutual Interests.....
Fred. W. Muth, Cincinnati, Ohio.
Question Box.....

Evening Session—7:30 p. m.

What Have we to Hope for from the Non-Swarming Hive? .....
L. A. Aspinwall, Jackson, Mich.
Poultry Keeping for the Bee-Keeper...
E. T. Abbott, St. Joseph, Mo.

W. Z. HUTCHINSON, Secretary

Wax Rendering methods are yet far from perfect, so far as securing the last bit of wax is concerned. Mr. Arthur

C. Miller calls attention to this point in his excellent article of last month, and intimates that there is a better method than that of pressure, but does not say what that method is. From a short article of his that appears in a late issue of the American Bee Journal, I think we may get an inkling of his ideas on the subject. Here are two or three paragraphs clipped from that article:—

Not long since there appeared in these columns an article by Mr. Dadant describing a French contrivance for recovering wax, consisting of a double-ended paddle rotating below a strainer. The kettle, or pail, was to be filled with water and comb, the paddle and strainer adjusted, and as the paddle stirred the mass below the strainer, the freed wax rose to the surface. Aside from a brief adverse comment by Mr. Hasty, no notice appears to have been taken of it, *and yet within that little contrivance lie the true principles for the extraction of wax.* To be sure, the machine is incomplete and crude, but, properly developed, it is to be the wax-extractor of the future.

Old comb consists of various kinds of fiber and other substances of an absorbent nature, and as soon as the mass reaches the melting point of wax these substances take it up. To get it out, the mass is squeezed; but until you can squeeze a sponge *dry*, do not expect to *press* all the wax from a mass of old comb. When melted under water the absorbent substances take up much of it, affording better opportunity for more wax to be secured; but even then the mass must be agitated in order to permit the wax to escape, and to make the operation complete some device must be used to break up every particle of the comb.

Besides these features, some device must be had for skimming off the wax as it rises, so that when all is extracted the refuse may be immediately removed and the machine recharged.

A machine properly constructed embodying these features will secure all the wax, and do it rapidly and easily.

Whom Shall we Elect as Officers?

Written in red ink upon one of the ballots cast in the recent election was the following: "There is little use in voting. The 'big four' have things now so arranged that it is simply impossible to elect a man from the rank and file."

In nearly every organization there may usually be found a few malcontents whose chief pleasure is found in sarcastic flings about the officers or the management of the association. For instance, what particular *virtue* is there in electing to office a man "from the rank and file?" Is such a man more likely to make a good officer than the one who, by hand, or pen, or tongue, has made himself favorably known among the fraternity? The very qualities which have brought a man into prominence are often those that are needed in an officer; and to sneer because such men are chosen, instead of some great unknown, shows poor taste, to say the least. During the last few years, quite a number of changes have been made in the officiary of the National, and I happen to know that some of them have come about because good men have become heartily sick of having their motives impugned by just such sarcastic flings as the above. If anything goes wrong with the Association, it is perfectly proper to point it out in a decent, respectable manner, but there is no room for the chronic, pessimistic calamity howler.

Caucasian Bees.

It would be well if those who are thinking of giving these bees a trial, would exercise a little caution. If you feel that you must give them a trial, don't let any of their drones fly, and thus allow an opportunity for this blood to become mixed into the apiary.

When over at the Ontario convention held recently in Toronto, Mr. J. B. Hall told me that he gave the Caucasians a trial as much as 20 years ago. He got two nuclei of Julius Hoffman, who secured them through some government official in Russia. These two

nuclei cost him $30, and he said he wished the price had been $500, and then he had allowed Mr. Hoffman to keep the bees.

Mr. Hall says that the bees winter exceedingly well, and that the claims for their gentleness are not exaggerated, but that they never stored enough honey to winter on, let alone any surplus. They always had to be supplied with winter-stores from other colonies. Another thing: What little honey they did store was capped in a peculiar, not to say, unsightly manner. Instead of capping a cell flat, or slightly convex, as is usually the case, the capping was concave, or depressed, leaving the side-walls standing up in such a conspicuous manner as to give the surface of the comb an appearance greatly resembling a sheet of comb foundation.

Even after all these years, Mr. Hall occasionally finds a colony showing this peculiar manner of capping, indicating that there are still traces of Caucasian blood mixed in his apiary. Whenever he finds a colony showing this trait, off goes the queen's head.

Considering the foregoing, I would say, if you try the Caucasian blood, handle it with caution.

Starting New Bee Journals—a Successful Bee Journal Must Cover a Wide Field.

The Apiarist is the name of a new, 24-page monthly bee journal, at one dollar a year, just started at Waco, Texas, by C. S. Phillips and B. F. Huff. It is very neatly gotten up for a first issue of a journal, and contains readable, helpful matter. The type is rather large for magazine-work, and the lines extend clear across the page. I know that this style is followed by a few magazines, but the shorter lines of single-column are more easily read.

The Review wishes the new-comer success, but I trust the editors will pardon me if I point out one weak point; the obstacle upon which so many ventures of this kind have been wrecked. In the Introductory, I find this sentence: "But there is no bee journal published in the South; we saw a good opening for one; no one else would undertake the task; so we have mustered enough courage and money to undertake the task." No bee journal catering to one section of the country has ever made a success. There are not enough bee-keepers in any one State, or in any one section of the United States, to support a bee journal. The most successful venture of this kind was the Rocky Mountain Bee Journal. It lived three years, and brought in more money than it cost, but its editor finally decided that the same amount of time, energy and capital invested in honey production would bring in returns ten fold greater than in publishing a bee journal, and he sold it to the Western Bee Journal. The Western Bee Joornal has now been absorbed by a syndicate, and I think it will be no breach of confidence if I tell that the Rocky Mountain Bee Journal had less than 500 subscribers when sold to the Western Bee Journal.

To succeed, the publisher of a bee journal must make a jonrnal that will appeal to the needs of the bee-keepers all over the United States and Canada. I am calling attention to this point, not to discourage my Southern brethern, but, rather, to help them, and show them how to avoid mistakes.

Keeping More Bees—Consistency in Argument.

If I make a mistake, or if I am unreasonable, or illogical in my arguments, nothing pleases more than to have some friend point out my error. For this reason I take pleasure in placing before my readers a letter from my old friend Harry Lathrop. Here is the letter:—

BRIDGEPORT, Wis., Oct. 27, 1905.
Friend Hutchinson:

That picture of comb honey on the front page of the Review for October, makes my mouth water; I should not wonder if it would use a whole lot of people that way. There is something about broken, dripping honey comb that attracts more than anything else in the food line. Your picture is as near as anything could be to the real thing and not be it. I believe chunk honey, displayed under proper conditions, (protected from dust and flies) would make more sales than the finest section honey, which is not near so suggestive.

W. Z. H., I can not doubt your motives but your advice does not seem to be logical nor consistent. On page 309 you acknowledge that the short crop of the present season was a blessing. Nature having stepped in and redu ed the supply of honey, prices will be sustained, etc.

With all of which we agree, and I wrote you a long time ago and said, that nothing could cure the adverse conditions but the law of Nature, reducing the crop of bee-keepers or the crop of honey.

On page 311 you argue and plead with bee-keepers to increase their producing capacity.

Suppose that all should follow your advice, which you, of course, would wish to have them do, what would be the result?

General loss through low prices, and a dead market to all engaged in the business of honey production for profit. A great many would become disgusted and quit, losing all they had invested. This would certainly occur before conditions would again become normal.

Yours Truly,
Harry Lathrop.

Yes, there is something particularly attractive and delicious about the cut edges of comb honey—the liquid, dripping sweetness. One of the lady exhibitors over at Toronto told me that the supreme moment always came when the section of honey had been cut, and was separated and the dripping pieces laid out before the crowd. Some one was always certain to fish up a five cent piece at that point of the proceedings.

Now then, friend Lathrop, I must agree with you that it would have a very depressing effect upon the honey market IF (don't lose the point contained in this little word) *every* bee-keeper in this land should "keep more bees," should double, or quadruple his honey crop. But this thing will never happen. All of the bee journals in existence may urge their subscribers to keep more bees, and only a certain portion of them will heed the advice. I will admit that not every man is so situated as to keep bees in large numbees, but I do feel, and feel it strongly, that many bee-keepers ought to keep more bees—or else *less*. I feel that a man ought to go into bee-keeping as he would into any other business—as a *business*. I would like to see, scattered over all of this land, where the conditions are suitable, men who are making a business of bee-keeping—specialists with several apiaries each. It is possible that honey would be sold at a lower price, but the men who produce it would be more prosperous than the average bee-keeper of the present. The large number of bees kept, and the short-cut, wholesale methods employed, would lower the cos of production. There might be more honey produced than at present, but, if it were produced by fewer men, they might be more prosperous than the average bee-keeper who now mixes bee-keeping with some other pursuit.

If we increase the crop of honey by having a small percentage of the existing bee-keepers "keep more bees," the increase in the aggregate will not be sufficient to greatly lower the price, and the men who thus double or tribble their crops will be immense gainers; if we increase the crop by a universally bountiful yield, the increase is so much greater that it influences the price. Even then, the man who produces a big crop, at a low cost, will come out ahead of the ordinary bee-keeper. Then there is another point, and it must not be overlooked, when a man

goes into bee-keeping as a business, he follows business methods in the selling as well as in the producing, which is not often the case with the ordinary farmer-bee-keeper, who is inclined to come to town with his crop and take what is offered, or send it to the city commission man, and so much accumulates in the great centers that down go the prices. When there is a big crop in California, such men as Mr. McIntyre hold their honey until there is a short crop. In Michigan Mr. E. D. Townsend advertises and sends out samples, and builds up a trade that is usually reached only by jobbers. By systematic methods, Mr. France and Mr. Ahlers of Wisconsin sell tons and tons direct to consumers. And so I might go on. The business bee-keeper studies marketing as well as production—the ordinary bee-keeper has not enough interest at stake and is inclined to "dump" his honey in almost any manner upon any market that will take it.

So, while it may seem a paradox to speak of the blessing (?) of a short crop, in that it puts up prices, and at the same time urge bee-keepers to "keep more bees," it will be seen that, when all the conditions are considered, it is not unreasonable. One thing is certain at present, and it is likely to remain so for all time, and that is that the man who produces in large quantities will come out ahead of the one who produces in small quantities, and divides up his energies among several pursuits

Care of Bees in Winter.

If they are properly prepared for winter the preceding autumn, given plenty of good stores, properly protected out of doors, or placed in a cellar or other repository having the proper temperature, and precautions taken against depredation by mice, bees require almost no care in winter. No bee-keeper worthy the name will allow his bees to go into winter quarters short of stores. They ought, at least, to have enough to last them until the first warm days of spring, when they may be handled upon their summer stands, and fed if necessary.

However, if by any hook, or crook, bees *have* gone into winter quarters short of stores, and there are fears that some of them may be starving, it is better that they be examined and fed if needed, even though the task be unpleasant. There need be no hesitancy in thus disturbing the bees for fear that it may do them some injury, for, as a rule, it will not.

Probably the best method of feeding a colony of bees in winter, is to give them a frame of honey. If no honey is available, and some of the colonies *must* be fed, the best substitute is candy made from granulated sugar. Put in sufficient water to dissolve the sugar, then boil the syrup until it will harden in cooling. To learn when to remove the candy from the stove, take out a spoonful every few minutes, and allow it to cool. As soon as it begins to show signs of hardening, draw the vessel containing it to the back of the stove, where the heat is less. Watch it carefully and try it frequently. As soon as it is sufficiently hard, remove it from the stove, and pour it into shallow dishes to cool. Be careful not to get it too hard. If it is hard enough to retain its form when placed over a colony of bees, that is sufficient. A thin cake of such candy laid directly upon the frames over a colony of bees and then the whole top of the hive covered with a piece of enameled cloth, and two or three thicknesses of old carpet over that, will enable the bees to "hold the fort" as long as the candy lasts. If, for any reason, it is impossible, or undesirable, to place the candy in this manner upon the tops of the frames, the candy may be "run" directly into empty brood frames, and the frames hung in the hives adjoining the bees.

To fill a frame with candy, lay it upon a smooth board with a piece of paper under the frame, and pour in the candy, after first waiting for it to cool until it is as cool as can be, and yet be made to "run." To keep the frame down close to the paper, so that the soft candy will not run out while cooling, tack the frame down with some nails just long enough to hold the frame down nicely, but not long enough to make it difficult of removal. If a frame full of candy is more than a colony needs, a less amount may be given by tacking a crossbar in the frame, part way up from the bottom, and filling the upper space only with candy.

Mice sometimes do some little damage, both to colonies wintered indoors, and those in the open air. The damage is confined principally to that of gnawing the combs. If bee keepers would only remember that bees can pass through a space that is less than ¼ of an inch, and that a mouse needs a space nearly twice this, it would seem that there need be no trouble in keeping mice out of doors. Simply contract the entrance until it is only ¼ of an inch the narrowest way, and no mice can enter. This should be done quite early in the fall, as cool, frosty nights often drive the mice into the warm retreat to be found inside a bee hive. When bees are wintered in the cellar, many bee-keepers practice raising the hive about two inches from the bottom board; others remove the bottom board entirely. This allows plenty of ventilation with scarcely any escape of heat. All dead bees and rubbish drop drop down away from the cluster of bees, where they dry up instead of becoming mouldy and rotten from contact with the warmth and moisture of the cluster. If a colony *does* die, the combs are left dry and clean, instead of being stuck together with a mass of damp, moldy, rotting bees. All who have tried raising hives in this manner are enthusiastic in its praise; but it will be seen that this plan gives the mice, if there are any in the cellar, free access to the hives. The remedy is to trap the mice, or poison them. For the latter purpose I have found nothing better than equal parts of flour, white sugar and arsenic, mixed, and placed in shallow dishes in different parts of the cellar.

Unless the cellar is well under ground, where it is well beyond the influence of the outside temperature, it is well to keep watch and not allow the temperature run too low in *protracted* cold spells. A lamp stove, burned all night in a cellar, will raise the temperature several degrees. During the fore part of winter, a low temperature is not so dangerous as it is towards spring, when brood rearing may have commenced. From 35 to 45 degrees will answer very well until towards spring, when it ought not to be allowed to go below 30 degrees, and may with safety go as high as 48 or 50 degrees. So long as the bees remain quiet, I should not disturb them with artificial heat. If the cellar becomes *too warm* in the spring, before it is time to remove the bees, it may be cooled down by carrying in ice or snow, or the windows and doors may be opened at night and closed in the morning.

Years ago, many bee-keepers practiced taking their bees from the cellar, if there came a warm day in the winter, and allowing them to fly, returning them again to the cellar, but this practice has been pretty nearly abandoned. If the bees are in a quiet normal condition, it often rouses them to breeding in mid-winter, which is far from desirable. Rapid breeding late in winter, or very early in the spring, is decidedly objectionable; nothing so quickly wears out bees as the rearing of brood; and the more unfavorable the conditions, the greater the wear. It is better that the bees should remain quiet until warm weather furnishes the most

favorable conditions for brood rearing, when the same expenditure of vitality will produce two bees instead of one. Therefore, don't allow a warm day or two in winter to tempt you to the removal of the bees from the cellar. Wait until the snow is gone, and there is occasionally a day warm enough for bees to fly, then take them out to remain permanently. On the other hand, nothing is gained; and much may be lost, by leaving the bees in the cellar until *late* in the spring. Many claim superior advantages for out-door wintering, asserting that the colonies build up earlier in the spring. They won't if the bees are taken from the cellar early enough; and, certainly, it requires no argument to show that bees successfully wintered in the cellar are better able to bear the rough weather of spring than bees that have endured all of the rigors of the entire winter out of doors. In most of our Northern States the main honey harvest comes early in the season, and to secure this harvest there must be a goodly number of field workers *at the right time*, and the eggs from which these workers are produced must be laid several weeks previous to the opening of the harvest, hence the element of *time* is an important factor, and nothing stimulates a colony in a healthy manner, and sets it to brood rearing, as does a flight in the open air, even if nothing is brought in. Hence it will be seen that early removal from the cellar gives the bees largely the advantages of both out-door and in-door wintering.

There is no danger of the cold injuring the bees when they are *first* removed from the cellar, the trouble comes from late freezes coming after two or three weeks of fine weather. At this time the combs are filled with brood, the cold drives the bees into a compact cluster in the center of the hive, and all of the brood outside of this perishes. All of this loss may be avoided by giving the bees some sort of protection after taking them from the cellar. First see that each colony has a queen and plenty of stores, and then protect it. This spring protection need not be an elaborate affair. A sheet of tarred building paper folded down over the hive, and fastened at the lower edges by tacking on strips of lath, will answer every purpose, while it costs only three cents, and can be put in place in less than five minutes. This makes a covering that is both wind and water-proof, and will absorb every particle of the sun's heat, but, more important than all this, it will save the loss of brood and weak colonies if there comes a "squaw winter" in the month of May.

If spring protection is so important that it is advisable to give it after taking the bees from the cellar, it may be asked, why not practice out-door wintering, then winter protection will answer for spring, and the expense of a cellar, and of carrying the bees in and out, will be avoided? In the first place, the saving of stores in cellar wintering will pay for the expense twice over; and, in the next place, and of far more importance, it is only by the cellar method that the wintering of bees, in a cold climate, can ever be reduced to a perfect system. By a selection of natural stores, or better still, by using sugar, we can secure uniformity of food, but it is only in the cellar, or special repository, that uniformity of temperature, at a desirable point, can be maintained.

Carrying the bees from the cellar is not a very agreeable task, and most of bee-keepers make it worse by attempting it upon such a warm day as to set the bees nearly crazy the moment the out-door air strikes them. It comes into the cellar and sets the bees to flying, and often there is a general mix-up in the yard by the bees of one colony joining with those of another in full flight, and following them into their hive. To avoid these troubles, some bee-keepers carry their bees out

in the night, when the indications are that the following day will be fair. If the bees have *wintered perfectly* and are *quiet*, all of these annoyances and losses may be avoided by carrying out the bees upon a day so *cool* that the *bees will not think of flying*. This idea that bees must fly the moment that they are taken from the cellar is one of those old notions that is a *notion*, and that is all. If bees have to wait even a week or two after being placed upon their summer stands, before having a flight, no harm will come as a result, *providing* they have not wintered poorly, and are so anxious for a flight as to leave their hives when the weather is so cool that they will never return.

EXTRACTED DEPARTMENT.

THE BEE JOURNALS.

Some Good Reasons Why a Bee-Keeper Should Read Many of Them.

Gleanings has an editorial on the above subject, and says almost exactly what I have had in mind to say for some little time. The first paragraph so nearly covers the field that I quote it:

I hold in my hand a very complimentary letter from one of our subscribers regarding the improvements that have been made in Gleanings from time to time. He thinks it covers the whole ground so thoroughly and so well that there is no use of his taking more than one bee journal. While we appreciate most thoroughly this voluntary expression of our correspondent, I desire to say that I believe he is mistaken. If any one keeps bees for the money he can make out of them, he ought *by all means* to take not only one journal but two or three of them. Gleanings does not pretend to cover the whole field of apiculture. The personal bias of an editor, even though that bias be unconscious, may cause him to emphasize certain developments of bee lore to the total neglect of all others. As I look over our exchanges I can see fields that they are covering that Gleanings is not; and, conversely, I can see fields that we are covering that they do not.

As a child grows older, it develops certain traits or peculiarities. It is the same with the bee journals—I can see it more clearly as the years go by. The Review has become most emphatically, the specialist's journal. The man who is in the business extensively, finds that no journal caters to his needs more perfectly. Gleanings has more of a diversified nature. It touches upon other things than bee culture—gardening, home-matters, religion, etc. The American Bee Journal is *par excellence* when it comes to reporting conventions. It has a department for ladies, as well as other distinctive features that might be mentioned. And so I might go on and enumerate the characteristics of the different journals. There is really no "best" bee journal, any more than there is a "best" breed of fowls.

Then, here is another point: Once or twice I have sent out 1,000 circulars to men who have asked for samples of the Review, and then not subscribed. I have asked them in these circulars to say *why* they had not subscribed. Various were the reasons given, and one of them was that the Review was too high in price compared with Gleanings or the American Bee Journal. I have several times explained, that having no supply trade, and appealing more particularly to the needs of the specialist, to a limited class, the Review must, from necessity, be high in price. Now, here is the point: After a man has subscribed for the cheapest bee journal, the one where he gets the most reading for the least

money, shall he stop there because other journals cost more in proportion to their size? The cheapest journal may be the most profitable (and it may not, it depends upon its adaptation to his needs), but another journal that is not so cheap may *still* be profitable. It is poor business policy for a bee-keeper to limit his reading to only one journal, because *that* journal costs him the least money for the amount of reading that it gives. It is impossible to have several bee journals of exactly the same price and the same number of pages, and the same value of information given. The question for each bee-keeper to decide is this: Will this *particular* bee journal be a profitable investment? Will it *pay* me to take it? *Not*, will it pay me as compared with this or that journal?

Another reason given for not subscribing for the Review was that such or such a bee journal was being taken, and the expense of another could not be afforded. So many look upon a bee journal as a sort of luxury, or an indulgence: the same as they would a story paper, for instance. It is a wrong view. The reading of the bee journals may be enjoyable, ought to be enjoyable, but that is not the primary object for which they are read. It is for the information that they contain; for the help that they can give their readers; showing them how to manage their bees at greater profit. There *is* a profit, a real, tangible, dollar and cent profit, in the reading of a bee journal that has any excuse whatever for its existence. If there is a profit in reading *one* bee journal, how illogical for a man to say he can't *afford* to read another. When I was keeping bees, before I began publishing the Review, I read all of the bee journals, and found it profitable to do so. Sometimes one little item alone was worth dollars and dollars to me.

The man who is making a specialty of bee-keeping, or keeping bees in a small way to make money, should spend his first, yes, and his last, dollar for all of the bee journals that are worth reading. Most of the failures in bee-keeping come from mis-management; and the journals point the way as clearly as it is possible to point it. A man can't know too much about his own business.

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W. D. Soper, Jackson, Michigan, Agent for Michigan.

GUS DITTMER, Augusta, Wis.

Send for 1905 Catalog.

Beeswax wanted

We have a complete stock of Root's goods. Let us quote you prices. We want to know every bee-keeper in Michigan.
M. H. Hunt & Son,
Bell Branch, Mich
Jobbers for The Root Co. in Mich.

The Danz. Hive—The Comb Honey Hive.
Send for Booklet.

BEE-KEEPERS' SUPPLIES

New Catalogue Lower Prics
Modern Machinery Better Goods
We are Manufacturers

MONDENG MF'G. Co., Minneapolis, Minn.
4-01-61 147-149 Cedar Lake Road

ROOT'S BEE-SUPPLIES

—AT—

ROOT'S PRICES

6-04-tf Send for Catalog

COOLEY & DEUEL, Kendall, Mich

PAPER CUTTER FOR SALE.

A man living near here, and having a small job printing office, has consolidated his office. With mine, and is putting in a cylinder press we both had a paper cutter, and, as we have no use for both of them, one will be sold at a sacrifice. Mine is a 24-inch cutter, and has a new knife for which I paid $10.00 last spring, yet $25.00 will take the machine. A photograph and description of the machine will be sent on application. This new man will have no connection whatever with the Review—simply with the job work. The presswork for the Review will be done on the new press.

W. Z. HUTCHINSON Flint, Mich

ADVANCED

Typographical Beauty.

During the past year, Advanced Bee Culture has been re-written, enlarged, and beautifully printed in large, clear type, upon heavy, enameled paper.

It is lavishly illustrated with beautiful, half-tone engravings, most of them full page, and it is no exaggeration to say that more perfect, artistic, bee-keeping pictures have never before been published.

The book is substantially bound in cloth of a soft grey color, and, from the lower opening in the letter "B" of the title in gold letters on the front cover, depends a green vine of clover, with a bee in gold sipping nectar from one of the dainty, white blossoms.

Diversified Experiences.

More important, however, is the simplicity and freshness, the inspiration and real *helpfulness* of its contents. It may have an egotistical sound, but I think it is entirely proper to mention the experience of which this book is the result.

For 15 years I was a practical bee-keeper, making my living in the apiary, producing tons of both comb and extracted honey, rearing and selling thousands of queens, reading all of the bee books and journals, attending nearly all of the conventions and fairs, visiting bee-keepers, etc.

Then I began publishing the Review; still attending fairs and conventions; still visiting bee-keepers more than ever—going from the Atlantic to the Pacific, and from Canada and Minnesota to the Southern States.

In publishing the Review, and reading all of the other journals and books, the views and experiences of the best and most progressive bee-keepers have been constantly before my eyes. Advanced Bee Culture is the *cream* of all this experience. After a thorough and careful consideration of the views of the best men, in the light of my own experience as a bee-keeper, I have described, in plain, simple, concise language, what I believe to be the most advanced methods of managing an apiary, for *profit*, from the opening of the season to the end of the year.

It is impossible in the space at command to go into details regarding the subjects treated; but I will very briefly mention about half a dozen, simply as samples.

Good Stock

Is second only in importance to a good location, and Advanced Bee Culture points out the characteristics of the different varieties of bees, their adaptability to different locations, and then shows how, having secured the best strain of the most suitable variety, to go on and actually *improve* this stock.

Choice of a Hive

Must come early in every bee-keepers' life, and Advanced Bee Culture shows why a large hive is desirable for some localities and purposes, and a small one for other locations and uses, giving *reasons why*, thus assisting the reader to choose intelligently.

Sections

And their adjustment on the hives are often puzzling matters, and Advanced Bee Culture considers the different styles, and sizes of sections, different styles of separators, as well as the different kinds of supers, giving reasons for a choice of each.

Comb Foundation

Is often used at a profit, but not *always*, and Advanced Bee Culture tells when

BEE CULTURE

and how to use it at a profit, and when it is more profitable to allow the bees to build their own combs unaided, and it gives the *reasons*.

Comb Honey

And its production interest the practical bee-keeper more than anything else connected with his business; and there is one chapter in Advanced Bee Culture, that comes in after the discussion of locality, varieties of bees, hives, supers, sections, increase, feeding, comb foundation, etc., in which this subject is taken up from the beginning of the season, and the whole ground gone over briefly, showing the relation of these different features to one another, as they are emyloyed in the production of comb honey.

Extracted Honey

Production possess an interest almost equal to that of comb honey production, and Advanced Bee Culture has a chapter telling how to produce a thick, heavy, well-ripened article with the least expenditure of capital and labor, and how to so treat the product as to preserve its rich, delicious aroma.

Marketing

Of honey is fully as important as its production. To raise a good crop is one thing; to sell it at a good price is another. To bend every energy to the accomplishment of the former, and then neglect the latter, is a mistake. Whether it is advisable to develop the home-market, and, if so, how it shall be done; whether the honey shall be sent to a distant market, and, if so, when, and which one; whether it shall be peddled, and how—these, and many other points, are considered in Advanced Bee Culture.

Foul Brood

Receives most comprehensive treatment. With the descriptions, illustrations and instructions given; it seems as though one who had never seen foul brood could detect it, and rid an apiary of it without serious loss.

Winter-Losses

are not always the result of the same causes. They may come from starvation; from poor food; from improper preparations; from imperfect protection; from a cold, wet, or, possibly, a poorly ventilated cellar, etc. Successful wintering comes from a proper combination of the different conditions. For clear, concise, comprehensive conclusions upon these all-important subjects, read the last few chapters of Advanced Bee Culture.

Commercial Bee-Keeping.

But there is not room to touch upon any more points. While *every* class of bee-keepers will find much, *very* much, of interest in the book, it is only fair to state that the spirit of commercialism prevades it from cover to cover. The leading idea kept in mind is that of keeping bees as a *business*, and making *money* out of them, and the bee-keeper who keeps bees with that end in view, simply cannot afford *not* to read Advanced Bee Culture.

The Price

Is $1.20 postage paid; or the Review will be sent one year together with a copy of the book, for only $2.00.

W. Z. HUTCHINSON,
Flint, Mich.

P S.—The book is entirely off the press, and in the hands of the binder, and will be ready for delivery now in a few days.

Prosperity, Happiness, Independence

Are all Yours in

Michigan and its Famous Fruit Belt Region

Now is Time

To come to Michigan and investigate its climate and soil; inspect the abundant crops of fruit, grain and vegetables; and select a home in a State where "failure" is unknown.

Special Low Round Trip Rates

are now being offered to Home Seekers desiring to visit the following points in the Lower Peninsula of Michigan:

Au Sable	Cadillac	Oscoda	Stratford
Beaverton	Gladwin	Manistee	Twining
Branch	Kaleva	Roscommon	Walhalla
Brethren	Lewiston	St. Helens	West Branch

Tickets on sale October 17 and 31, November 7 and 21, and December 5, 1905.
Limited to Fifteen Days for return
Apply to your local Ticket Agent for Rates and General Information

MICHIGAN COLONIZATION BUREAU,
Manistee, Michigan.

PATENT, BINGHAM SMOKERS. 24 YEARS THE BEST. CATALOG FREE.
T. F. BINGHAM, FARWELL, MICH.

Special Sale on
HIVES AND SECTIONS

Until March 15th. Eight-frame, Dovetail Hives, 1½ story, $1.25; 10-frame, $1.40; No. 1 bee-way sections, $3.90; No. 2, $3.40; 24 lb. Shipping-Cases, 13c; Foundation, Smokers, etc., cheap.

Michigant Agent for Ditmer's new process foundation, wholesale and retail.

Send for 24-page catalogue, free.

W. D. SOPER,
F. R. D. 3 JACKSON, MICH.
43Dtf Please mention the Bee Journal.

—If you are going to—
BUY A BUZZ-SAW,

write to the editor of the REVIEW. He has a new Barnes saw to sell and would be glad to make you happy by telling you the price at which he would sell it.

American BEE Journal



All about Bees. 16-page Weekly. Sample Free. $1 a year; 3 months' Trial Trip, 20c. silver or stamps. Best writers. Oldest bee-paper; illustrated. Dept's for beginners and for women bee-keepers.

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL.

Honey Quotations

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, at the Washington meeting, and, so far as possible, quotations are made according to these rules:

FANCY—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1, dark," etc.

The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is ten per cent; except that a few dealers charge only five per cent. when a shipment sells for as much as one hundred dollars.

BUFFALO—Really fancy honey is selling well and receipts are moderate. Other grades move fairly well We advise moderate shipments of all grades. We quote as follows: Fancy white, 13 to 14c; No. 1 white, 11 to 12c; fancy amber, 9 to 10c; No. 1 amber 9 to 10c; fancy dark 9 and 10; No. 1 dark, 8 to 9c; white extracted, 7 to 8c; amber extracted, 6 to 7c; dark extracted, 6 to 7c. Beeswax 28 to 32c.

BATTERSON & CO.,
Dec. 6, 1905. Buffalo. N. Y.

NEW YORK—The demand for comb honey continues to be fair for all grades. Prices remain proctically the same. We quote fancy white at 14 to 15c per lb., No. 1, at 13c; No. 2 at 12c and buckwheat at 10c per lb. Extracted honey is in good demand, especially California, with large supplies. We quote white at 6½ to 7c, light amber at 6c; buckwheat extracted at 5½ to 6c per lb., Southern at 50 to 60c per gallon, according to quality. Beeswax, firm and steady at 29c to 30c per lb.

HILDRETH & SEGELKEN,
82-86 Murray St,
Dec. 7, 1905. New York.

CINCINNATI—Reports from different parts of the country give evidence of an almost total failure in the comb honey crop excepting some points in the North. We are SELLING this Northern comb honey, at from 14 to 16c per lb. by the case.

The demand extracted honey is about equal to the receipts, which are good. We continue to sell amber in barrels at 5¼ to 6c. White clover at 6½ to 7½c. For beeswax, we are paying 30c per lb. cash, delivered here.

(We wish to call the attention of the producer to the above quotations on honey. He must not expect to receive these prices on his product. The above are our SELLING prices.)

THE FRED W. MUTH CO.
Oct. 6, 05. 51 Walnut St., Cincinnati, Ohio.

KANSAS CITY—The honey market is dull here on account of being well supplied with California honey. Fancy white, 24 section comb honey is selling here for $3.25 per case; amber, and other grades 25c lower. There is a fair demand for extracted at 6c and 9½c. Beeswax is selling at 25c.

C. C. CLEMONS & CO.,
Dec. 7, 1905 Kansas City, Mo.

KANSAS CITY—Market well supplied with honey, both comb and extracted; movement slow especially on extracted. We quote as follows: Fancy white, 13½c; No. 1 white 12c to 13c; fancy amber 12c; white, extracted 6c to 6½c; amber, 6c; beeswax 20 to 25c.

WALKER-BREWSTER GROCER CO.,
Dec. 8, 1905 423 Walnut St., Kansas City, Mo.

CHICAGO—The trade in best grades of white comb honey has been fair, yet, retailers take only small quantities at a time. This honey brings 14c to 15c, other grades are difficult to place at from 1c to 3c per lb. less. Extracted, selling at 7c to 7½c per lb. for white, amber, 6½c to 7c, dark 5½c to 6. Beeswax, 30c.

R. A. BURNETT & CO.,
Dec. 6, 1905 199 So. Water St.

TOLEDO—The maket on comb honey at this writing remains quiet and firm, but the receipts are not quite equal to the demand We quote fancy white at 15c, No. 1, 14c. with little demand for amber.

Extracted white clover in barrels, is in good demand at 6½c, to 6¾c cans 7c to 7½c. Amber extracted in good demand, at 5c to 5½c.

Beeswax 28c and 30c.

For the benefit of bee-keepers, will state, that the above are our selling prices.

GRIGGS BROTHERS,
Dec. 7, '05 Toledo, Ohio,

CHICAGO—Trade on comb honey up to a week ago has been veay satisfactory. We don't look for a very heavy trade until after the first of the year, as jobbers are aiming to reduce their stocks in order to take inventory on Jan. 1st.

Our stock here at present time is not very large and we can handle any honey still in producers hands at satisfactory prices.

Drop us a line and tell us what you have to offer in comb or extracted. We quote as follows: Fancy white, 15c; No. 1 white, 13c to 14c; No. 1 amber, 11c to 12c; white, extracted, 6 to 7c; amber, 5c to 6c. Beeswax 28 to 30c.

S. T. FISH & CO.,
189 South Water St.
Dec. 7, 1905 Chicago, Ill.

If You Want the Best



Dovetailed Bee Hive with a corner that will not give way to sun or rain, you can get it of the Wood Bee Hive and Box Co., Lansing, Mich., for $1.25. They are a bargain you cannot well overlook. They are 1½ story for comb honey, using 4¼ beeway sections, no separators, sections nor fd'n. We make them and know they are just what we say. All kinds of supplies man'f'd and for sale. Wax made up for cash, or exchange foundation for wax. Send for circular and ask for our little book on Italian and Caucasian queens which will be on about Jan. 1st.

The Wood Bee-Hive & Box Co.

Lansing, Mich.

For 1906

Our Hives and Sections.

Our hives and equipment, both of workmanship and clearness of stock, cannot be excelled and we doubt if they have ever been equalled. The Rroot brand in always popular with the customer and always the best that money can produce.

Our sections and frames for 1906 are even better than ever. They are inspected and re-inspected again and each inspector is required to put in each box of sections that he passes upon his own inspector's card so that if complaint is made this card will come back on him. As he is anxious to hold his position and if possible get an increase in pay, it is clearly to his interest as well as that of the customer to let nothing but perfect goods pass.

In the matter of improvement it is generally conceded that we are the leaders. We are constantly testing out every new device in our own yards and when it has stood the test we place it before the public.

The Root Automatic Extractors.

Our extractors for 1906 in point of improvements and quality of workmanship leaves everything else in the shade. The four, six and eight frame machines have the finest automatic reversing mechanism that has ever been put into a machine. Even the two frame models can have the reversing mechanism put on at a slight additional cost; but we do not ordinarily advise buying the two frame automatic. Steel construction has been substituted for cast iron whenever practicable.

Our Bees and Queens.

We are running at Medina and vicinity five queen rearing yards, at other points three more. We are prepared to furnish our celebrated Red Clover stock, a stock that won a splendid reputation for gathering honey from any source. We are also prepared to furnish bees in nuclei and full colonies.

Our Catalog for 1906.

A great improvement, Entirely rewritten and revised. New arts. New cover. Everything is classified and indexed. No more price-tables to confuse. All prices are right under the article illustrated or desribed. Beginning Dec. 15 our presses will be busy ***day*** and ***night*** for three ***solid weeks*** printing the ***first*** edition. If you wish a copy of this edition let us have your name ***now***.

Gleanings in Bee Culture.

Our December 15th issue makes a new era in Bee-Keeping literature. It is a genuine ***first-class*** magazine. During 1906 this high standard will be kept up. Gleanings gives its readers and advertisers ***full measure,*** pressed down and running over. It's only $1.00 a year. Six months' trial 25c. You will find it listed in all principal club lists. Better subscribe now and get a copy of our magnificent Christmas issue.

THE A. I. ROOT CO., MEDINA, OHIO